PART 2.

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THE

# ARTIST's REPOSITORY;

OR,

## *Encyclopedia of the Fine Arts:*

EXHIBITING THE PRINCIPLES,

AND

EXPLAINING THE PRACTICE,

IN ALL THEIR VARIOUS BRANCHES.

A Work calculated to instruct the Student, and to gratify the Professor. It contains the Principles of delineating the Human Figure, &c.; the Methods of preparing and using all Kinds of Colours: Instructions for Painting: Engraving, &c.: Essays on Sculpture, Perspective, Architecture, and Landscape:—with a variety of Information connected with the Arts, their Principles and Practice, in their various Manners and Branches; including upwards of

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the child should suck her blood instead of milk:" this instance of expression (for as such we are considering it) may vie with the greatest; but "TIMANTHES, says the same author, in his picture of the Sacrifice of IPHIGENIA, having exhausted every image of grief in the figures of the spectators, and above all in her uncle, threw a veil over the face of her father, whose sorrow he was unable to express;" yet, by this stroke of ingenuity, he in fact expressed the anguish he designed; for the feelings of this figure being wholly left to our imagination, previously excited by the distress of the others, we rise from those expressions to a mental conception of agony insupportable.

I humbly conceive that our present subject (EXPRESSION) may be viewed yet differently, and that the agitations of the mind, and by consequence of the person, might admit of some such scale, or degrees, as the following:—This world, certainly, is not the place where we expect to meet with perfect happiness, yet, might we guess at it, perhaps we should find it composed pretty much of negatives; not impelled by violent irritation, or by angry passion; not stimulated by ardent desire, or perplexed by tremulous fear; not anxious or careful; not supercilious or abject: What would be its expression? How would the countenance shew it?—As some passions exceed the powers of art by exhibiting too great sensation, this eludes them by exhibiting too little; the seat of felicity is the mind; the countenance can only relate the matter negatively, by its freedom from the wrinkled brow, the rolling eye, the extended mouth; and by exhibiting the benevolent aspect, and the placid smile.

But as no man is totally void of either hope or fear, we might place a moderate degree of the former next to perfect tranquillity; let hope be advanced to expectation, that expectation heightened by the presence of the object desired; let desire be perfected in possession; possession issue in joy; joy become rapture; and we have, might I so say, the scale complete in its upper divisions: on the other hand, disturb tranquillity by apprehension, augment this sensation to affright, to terror; unite with them anger, hatred, malice;—disappoint these passions; induce agony, rage, despair; and the scale is too sadly perfect in its lower department. Should any of my auditors wish to trace the description of the passions in this order, it may have considerable use.

If a moralist was descanting on this subject, he might remark, that happiness is only to be found in the medium state; that there are many more passions to be placed on the lower division of the scale than on the upper; that our nature is more exposed to them; and that the superior passions should be encouraged, cherished, and promoted, to balance the operations of the inferior. He might remark, that, to indulge any passion, will in time produce so strongly the marks of that passion in the countenance, as to disfigure the most lovely features; he might therefore request his hearers to avoid whatever may injure their personal beauty, by disturbing their mental serenity; and might point out the vanity of what is often (falsely) esteemed beauty, unless accompanied by good sense, good manners, and good nature; by a modest carriage, a cultivated understanding, and a virtuous mind.

# LIST OF PLATES

BELONGING TO

# LECTURE VII.

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## EXPRESSION.

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PLATE LXXVII. TRANQUILLITY, &c.

PLATE LXXVIII. DEJECTION, &c.

PLATE LXXIX. VIOLENT MOVEMENT, &c.

These Plates are explained at large in the LECTURE: they are placed somewhat in the order hinted at, page 186.

TRANQUILLITY, JOY, LAUGHTER.

TRANQUILLITY, ADMIRATION, ASTONISHMENT, &c.

DEJECTION, GRIEF, &c.

Shewing the encreasing motions of the parts, correspondent to the encreasing strength of the passion.

# LECTURE VIII.

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## PROPORTIONS OF THE FIGURE, AND OF BEAUTY OF PARTS.

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LADIES AND GENTLEMEN,

WHEN we look around among the almost innumerable inhabitants of this lower Creation, we are surprized, and delighted, with the variety of powers bestowed among them, and with the happy skill by which those powers are adapted to the various situations and circumstances of each class, and of every individual. Our great Author has given to some creatures, life, breath, motion, agility, swiftness; to others he has imparted what appears to us as bare existence only. Some remain pendant to their native rocks, or buried in profound obscurity, abide in their submarine recesses: Others,

> " Sailing with supreme dominion,
> Through the azure deep of air"——

soar beyond our aching sight. Some, bound over the hills, and dart along the plains; others, crawl their inch a-day, and in piteous moans seem to bewail the necessity which impels them to such *rapid* motion. Equally various are the talents of creatures; shall I call *mental* talents, those by which some animals construct their dwellings, provide their food, regulate their social connexions, command, or obey the commands of others, with such regularity, diligence, and fidelity, as should instruct the sons of men? "Go to the Ant, thou sluggard, consider her ways, and be wise:" go to the Bee, and learn industry; to the Beaver, and observe his dam; or let the birds of the air advise thee, whose dwellings are models of inventive ingenuity and foresight, whose parental affections are examples for imitation; "the Eagle exciting her nestlings, broodeth over her young, expandeth her wings, taketh them, and supporteth them on her pinions," training them up to celerity and courage.

What then is MAN? whose superior faculties subdue to his constant service not a few of his fellow-creatures, and occasionally manifest his dominion over every species of animals. By his strength does he vanquish the strong; by his speed surpass the swift? —not in such competition appears our pre-eminence, but in the exertion of those mental, those spiritual endowments, whereby we investigate the Laws of Nature, and study the appointments of providential wisdom; Set a NEWTON as an instance of what Humanity is capable.

And is no trace of these faculties apparent in his figure? have his mental abilities no harbinger in his person? I confess myself inclined to assert, that evident tokens of man's superior rank in the creation are not only discernible, but conspicuous, in his appearance. As this has been strongly denied, and as the inquiry is not altogether foreign from our subject, I shall intreat your candor to a few observations.

It is not denied, that, in some respects, the general idea evident in the construction of the human frame, and in that of animals, have a certain similarity: the trunk, the limbs, the extremities, are often *composed*, as it were, on the same plan; and are no further varied than attitude or destination require: nevertheless, the parts are rarely similar in their conformation; and the features hardly ever; but if it be insisted, that the features *sometimes* approach resemblance, to this I would answer, that, notwithstanding the resemblance of the features of some animals to those of mankind, there are yet the following permanent distinctions:

I. The human EYES are placed on a line which directly crosses the auditory nerve, while those of brutes are considerably lower down in their faces, and are more, or less, inclined toward the nose. Even the eyes of the ORAN-OTAN (that nearest approach in form to mankind) are so far below his ears, that the horizontal line of the eyes, which in a human face passes through the *top* (or nearly) of the ears, passes through his ears at *bottom*, if it may not be said to avoid them totally.

II. Man has power to elevate the BALL OF HIS EYE (*i. e.* of looking upward) without turning up his nose; of which motion animals are incapable: their eye-balls may turn downward; and this so much as to shew part of the white *above* the iris, but they cannot be raised so as to discover the white *beneath*.

III. The EYE-BROWS of animals never meet, and are always depressed at their extremities; while those of man approach each other, and elevate themselves next the nose.

IV. The NOSTRILS of animals hardly deserve the name of a nose, being little more than slits whereby they breathe and smell; they are not prominent, like the nose in a human countenance.

SPEECH is not indeed an external sign, yet speech may greatly contribute to a decision in our favor; especially, since dissection has proved, that in those parts of the throat which should assist in the formation of sounds, animals whose forms approach the human *(anthropomorphous)* have a certain orifice, or slit, which, by dividing the passage of the air, prevents articulate expression, by restraining the voice to a mere whistle.

It must be owned, some birds articulate very distinctly, but 1. This is not the effect of nature, but of education: 2. They rarely have any conception of the meaning of what they repeat, unless it refer to bodily wants, such as food, &c. 3. Birds are, in their forms, so unlike mankind, that their instances have no consequences: had animals possessed the same imitative powers, it might have been embarrassing, perhaps, but we know of no animal capable of speech; or of any exercise of the powers of reason; though some things related of the elephant, and indeed of some other animals, are truly surprizing.

That the natural attitude of man is erect, and not prone, may be satisfactorily inferred from the following considerations: His neck is shorter than the same part in most animals, but not so contracted as that of the monkey kind; therefore, while erect, his head (which may be termed his observatory) is so elevated by situation, that it is not necessary for him to extend his neck in order to look around him: beside this advantage, his neck, while erect, is much better fitted to sustain in equipoise the very great weight of his head, (chiefly occasioned by the magnitude of his brain) which, were he prone, would undoubtedly impede his movements, by giving an injurious preponderance to that member. The same moderate proportion of neck, would prevent his mouth from being capable of gathering his food on the surface of the earth: I decline insisting on the manner in which the *vertebræ* of his neck, and of the spinal column in general, are locked together; but this is demonstrative on inspection of the skeleton.

The breast, or *chest*, as it is termed, of man, is much larger, and broader, more expanded, in proportion to his size, than that of animals. Where the neck unites with the trunk of the body, or chest, is placed the *clavicula*, or collar-bone, a bone found only in man, and in such animals as are designed to sustain themselves erect without inconvenience; that is to say, in certain species of the monkey tribe: nor has any animal, at the union of the trunk to the lower members, what we call Buttocks; every appearance of that kind being nothing more than, properly speaking, their thighs.

The very great disproportion between the arms and legs of a man, (his fore-legs and hind-legs, supposing him a quadruped) is an invincible argument in favor of his perpendicular position: since, were he to straighten his legs when prone, his back parts would be much higher than his shoulders; or should he bend at his knees, beside a very great inconvenience to his foot, his whole leg would be not only useless, but burthensome.

The human foot is extremely different from that of any animal whatever, even from that of a monkey; the foot of a monkey is rather a hand than a foot, the toes are long, and placed in the same manner as those of a hand, having the longest in the middle: nor has he any heel like the human; nor has the sole of his foot equal dimensions to that of man; whose sole is the largest of any creature's, and whose nails are not only smaller, but very different in construction, from those of animals.

After all, what benefits can be derived from assimilating the animal part of mankind to animals? Will the character of a man, in consequence of these principles, become more wise? more benevolent? more affectionate? Is the knowledge of animals more extensive, their comprehension more enlarged? their means of happiness superior? or their enjoyments more exquisite? Is it said, their health and strength is more vigorous and stable—were it even granted, that in *all* corporeal powers we are their inferiors, (which yet admits of doubt) what is become of intellectual faculties? Are mental endowments beneath regard? or liberal accomplishments, the true elegancies and delights of society, esteemed a mere blank? Forbid it heaven!—I confess, in the manners of some men there is a redundant proportion of brute, but that they are therefore more laudable, is not I believe generally understood; on the contrary, were it possible to *reclaim* them by proper representation, it would be time well bestowed by any Metaphysician, ancient, or modern.

Not to digress further from the immediate subject of this discourse, we proceed, according to our plan, to consider the proportions, and some of the properties of the figure.

I design, first, to notice the method of measuring the figure, which is by a scale either—of heads,—or of faces. We usually consider a figure as being, in height, seven heads and an half, or ten faces; for, a head containing four measures of the nose, of which a face contains but three, it is evident, that ten faces, or seven and a half heads, are exactly equal in length.

We formerly measured the head by a part of itself, the nose; we desire also to measure the figure by a part of itself: for this purpose some have selected the foot, measured along the sole from the heel to the end of the toes; and hence our ordinary measure of a *foot* had its rise: indeed, the *natural* standard for measures of length, seems to be some part selected from the human figure: the cubit, if the cubit was *originally*, (as is thought,) the length of the fore arm and hand extended, seems a clear instance; and the idea of measuring by the foot seems to be no less natural and easy.

VITRUVIUS says the ancients measured their figures by the length of the sole of the foot, giving them in height, six times that length: and hence the proverb *ex pede Herculem*; 'you may know Hercules by his foot.' This proportion, however, is doubted of by some Artists; it seems, nevertheless, to have been adopted in the Apollo *Belvedere*, and in the Venus of *Medicis*; the most beautiful figures extant.

Among modern Artists, however, the custom of proportioning a figure by its foot, has been superseded, by that of considering the head, or face, as better suited to this purpose. Certainly, it should seem, as if this were the more obvious standard by which to form a scale; but whether accuracy may have really gained by the change, is not so easy to determine.

We shall now notice some of those principles of proportion which seem to be adopted by Nature in the formation of the human frame, and which, from their regular occurrence, we may justly call *fixed*.

Some persons have observed the prevalence of the number three, in the composition of the human figure; the body, say they, has three parts; the trunk, the thighs, the legs;—the members have also three parts; the lower members three—the thighs, the legs, the feet; the upper members three—the upper arm, the lower arm, the hand. In a well made man, the body and head conjointly, is to the thighs, legs, and feet, as the thighs are to the legs and feet; or, as the upper arm is to the lower arm and hand.

The navel is the proper center of the human frame, and, when a man holds up his arms above his head, is half way between his hands and feet: but when his arms hang down, the bottom of the trunk becomes the half distance, as appears from actual measurements after nature, by GERARD DE LAIRESSE.

By a scale of faces the lines would fall as follows: (I.) From the crown of the head, to the bottom of the nose. (II.) To the pit between the *claviculæ*, or collar bones. (III.) To the bottom of the breast. (IV.) To the navel. (V.) To the bottom of the trunk. (VI. and VII.) To the upper part of the knee. The knee contains half a face. Two faces from the bottom of the knee to the ancle, and half a face from thence to the sole of the foot, complete the whole measure of ten faces.

When a man extends his arms, he is between their extremities as broad as he is high; which measures are thus reckoned: the hand, from the finger's end to the wrist, one face; to the elbow, one face and half; to the joint of the shoulder, two faces; to the pit between the *claviculæ*, one face; making five faces and half: the same measures on the other side would make eleven faces, but in the extension of the limbs, the bones lose of their measures at the elbow and shoulder (together) half a face, on each side; which reduces the whole to ten faces.

The *lengths* of the limbs are usually taken from the bones, whose proportions being fixed, readily admit of measurement; whereas the muscular parts varying with every motion, continually change their appearance and their dimensions. Very trifling, therefore, are rules for the *breadth* of parts, except where united by bones: as, for instance, across the chest; the *claviculæ* are always the length of one face each, consequently from shoulder to shoulder, is two faces, or one head and an half in breadth: which must necessarily be the distance in the most corpulent person, though a considerable thickness of flesh or fat may augment his muscular appearance; while the absence of cross-bones in the lower region of the trunk, permits, there, an unlimited accession of fat.

As timbers in a building, so are BONES in the body; they proportion, they unite, they sustain the whole fabric: beside these uses, bones afford for the attachment of the muscles proper spaces, from which arising, or in which terminating, they have certain fixed points, by whose resistance and solidity they are enabled to act. But, as beside solidity, flexibility is requisite, the bones are divided according to their offices, whereby they become capable of being moved by muscular exertion. This remark is necessary, because by muscular exertion the proportion of several parts is apparently augmented, or diminished. This appears, especially, in the arm, which, when both its parts (the upper and the fore arm) are in the same line, differs an eighth part of its measure from the same arm when bent at the elbow: for the upper bone (the *humerus*) withdrawing out of the cavity wherein, when straight, it is inserted in the lower bone (the *cubitus*) adds the circummensuration of an angle formed by that motion, to the length of the arm: and this addition is greater or less, as the angle made by the bending of the elbow is more acute, or obtuse.

The MUSCLES are swelled by exertion; by violent exertion they are greatly swelled: therefore, lest they should at any time, by an unfortunate strain, burst, and be separated from the bones, they are strongly bound at proper places, by bands capable of resisting such violence. For instance, above the wrist, lest the muscles of the arm should recede from their places, is situated one of these broad bands (named *fascia)*, which unites, and compresses, the course of the muscles in this part. These bands prevent any considerable increase of flesh, or of fat, where they are seated; for which reason the joints of children are extremely small and slender, compared to their other parts; the soft and juicy flesh being found *between* the junctures (as, between the wrist and the elbow), but never *at* those places which are to permit, or to contribute, motion: neither in the fattest persons, is their increase at the joints proportionate to their increase elsewhere.

Of the motions of the head and neck we have formerly said something, as the neck is the center, and principal instance of graceful motion, we shall probably have occasion further to consider its motion on a future subject; our present design having reference chiefly to such motions as affect proportion.

The ARM being a member of very general service, has an almost infinite variety of motions belonging to it; originating either from the shoulder, or from the elbow. We shall briefly notice some of the principal.

The furthest reach of the arm across the stomach, brings the elbow to the centre of the stomach; so that the shoulders and elbow of that arm, form an equilateral triangle.

When the arms are extended behind the back, the elbows are removed from each other just the length of the fore-arm and hand; the two arms forming an exact square.

That arm which is furthest removed from its natural posture, will exert the greatest powers to recover its original station: for instance, to throw a dart, or stone, the arm is drawn back to such a distance from the body, as to require a rapid, and even violent, assisting motion in the other parts: as you know, the arrow from a bow, is projected with a celerity correspondent to the strength exerted by the bow-string to recover its place.

A person pointing to an object not very distant, does not extend his arm so far from his body as when he points to a remote object; then must the arm be stretched out from his body: the face of him who points, being always directed towards the person for whose advantage that action is intended.

The Wrist, becomes smaller when the hand is shut, and enlarged as the hand is opened: but this motion has a directly contrary effect on the arm; the reason is, that the muscles, which on opening the hand are stretched out, and extended, are in clenching the hand swelled, and increased in bulk, whereby the whole arm is augmented.

The joints of the Fingers enlarge themselves on all sides when bent, and decrease when straightened, whether more or less. The same effect attends the same motions of the TOES.

The motions of the LEG are not near so numerous as those of the arm: the chief use of this member being either as a support to the body, or as the instrument of walking, its muscles are much stronger than those of the arm, and their movements more direct, and prolonged; for, to turn outwards, or inwards, the foot, or the leg, requires a motion whose origin is in the upper parts of the thigh. The thigh-bone is the largest and strongest in the body; and by means of the *patella*, or knee-pan, is so firmly connected with the bone of the leg, that they can scarce be dislocated while in a strait direction. There have been persons who have withstood the efforts of several horses to drag them (one of which worthies is immortalized on a sign-post in Wapping), the management of which feat, is only to regulate the line of the force exerted against the bones of the thigh and leg, for should that line vary, though but little, from its true direction, the strength so much boasted of sinks into weakness.

Should a machine for flying ever be constructed (who knows how far human invention may proceed?) it must be worked by the muscles of the thigh and leg: were those of the arm strong enough to exert the requisite force, yet would they quickly become weary; whereas those of the legs, we know by experience, can sustain great fatigue.

Of all the members of the body whose junctures are capable of being bent, the KNEE alone is diminished in bending, and augmented by being straightened.

The enlargement or diminution of the juncture of the FOOT, is only seen on the inside; it increases when its angle is acute, and decreases as that angle becomes more obtuse.

The shoulders, neck, and reins, are more variable than any other junctures of the body: and their motions are more numerous and diversified.

We remark, in general, that when one side of a member, or of a figure, is diminished, the other side is correspondently enlarged.

A principal care in designing figures, should be, to set the head well on the shoulders, the trunk well on the haunches, and the haunches and shoulders well on the feet.

We have now obtained some general idea of the proportions of the human figure; of the method of measuring those proportions; and of the variations to which they are subjected by the numerous motions to which the members are respectively dapted: we shall see, hereafter, that there are yet other powerful principles which greatly diversify proportion; but what has been said is, I think, sufficient to prevent the expectation of applying *mathematical exactness* either to the parts, or to the whole. Whether such exactness be impossible, I shall not determine; because there are those who think it probable the ancient Artists had reduced to fixed dimensions, all the proportions of the figure, as well small as large, and perhaps the circumferences also: this appears, say they, from a conformity of measures, though diversity of excellence, among the antique figures remaining. If this supposition be taken in a general sense, it may, perhaps, be admitted; but as attitudes differ, the apparent dimensions of members differ also; and as attitudes are infinite—if the supposition be absolutely taken, the series of measures must be infinite also—in which case it is certainly useless.

Not meaning to adopt the *precision* of measurement, but merely its general application, I shall introduce a few additional hints arising from this subject, arranging them, for the sake of perspicuity, under two principles: PROPORTION, and BEAUTY:—these, though they ought always to be united in practice, yet are distinct in principle; and either separately, is at best imperfect, if not nugatory.

PROPORTION refers to length, breadth, thickness, &c. of parts. If a part be of the just length, yet too thick, or too thin, proportion suffers: and proportion suffers equally, if a part be of a just thickness, or thinness, but of an improper length.

BEAUTY has respect to form: now one part of a figure may exhibit a beautiful form, and yet that figure may be not well proportioned throughout: for instance, a man may have a handsome leg, or arm, considered in itself; but the other parts of his figure may not equal this part in beauty; or, this part may not be accurately proportioned to the rest of the figure: it may be too long or too short, while in itself it is beautiful.

As a figure may be partially beautiful, without being universally well proportioned; so may a figure be generally well proportioned, without being beautiful in all its parts, and consequently not in the whole. It is true, there can be no Beauty without proportion; but the customary proportions which may be observed, even in nature, are not always beautiful, to the degree that Art calls beauty.

According to the effect of constitution, passions, disease (though perhaps latent), of food, exercise, and manner of living, the parts of the figure are varied from what they might be: it is notorious, that certain medicines affect particularly certain parts of the body; and food may be regarded, in this case, as a kind of medicine: strong liquors have the same effect: now all these, and other causes, introduce deformity, either—by excess: *i. e.* the swelling, or protuberance, of the parts; or by—diminution, *i. e.* their shrinking, and contraction.

Certainly among the causes which contribute to the variation of the human figure, the influence of climate is very considerable: this we have formerly remarked; and it might be confirmed, if requisite, by comparing the natives of any two distant countries: we may, however, reasonably conclude, that this effect should follow, from the diversity of seasons they experience, from the changes of heat, cold, rain, dry weather, lowland moisture, and mountain keenness, to which, in infinite diversity, the human race is subject.

Now Beauty should be conceived of, as presenting no trace of *any* unfavourable circumstance, but the simple *exemplar* of pure and happy nature: it follows, that, no man living can pretend to this Beauty, because no man living is exempt from *every* cause of variation which affects Beauty.

To render this idea of Beauty more sensible, let us contrast it by its opposites. Suppose a figure as swelled all over, and requiring contraction: (this is one kind of deformity): from this figure then, to reduce it to Beauty, we must gradually pare off so much as may diminish it to a moderate size: here begins an approach towards Beauty; and the nearer we approach towards the precision of Beauty, the greater delicacy is required in our treatment of the parts. At first, a coarse hand and a rough tool, may be indulged; but at last, the utmost skill and judgment will be fully employed; for if we stop short of taking away the *precise* quantity, or if we take away beyond that *precise* quantity, by either, Beauty is injured.

Consider now the reverse of this supposition: imagine a lean, withered, shrunk, figure, to which it is necessary to *fill up* the parts: at first, this may be attempted pretty rapidly; but, as it approaches what it ought to be, much nicety of hand is required to add *precisely* enough, or to prevent the additions from exceeding the *just* limits of Beauty.

From these representations it appears, that, though all persons cannot agree in their ideas of Beauty, yet all can agree to dislike deformity; and all can agree in their judgment up to a certain distance from deformity; for the progress which each would recommend, all would consider as advancing towards Beauty.

We shall not add to what we have said of Proportion; but as the subject of Beauty is intimately connected with the human figure, we shall bestow a thought, or two, on its general forms, as it appears in the various parts.

We ought first to premise, that Beauty varies with varying life; to complete our idea of Beauty, therefore, we must not only select the most beautiful character, but the most beautiful parts of that character, from among the most beautiful individuals, in the most beautiful time of life, combining all these beauties into one exquisite form, adorned by the most graceful action. The difficulty of this undertaking appears from the rarity of success, no less than from this statement of it's principles. I fear we must take our ideas somewhat lower; but we are not therefore bound to forego them entirely.

In speaking of the beauty of parts, we naturally begin with the head:—the profile, especially, shews the beauty of lines: full and large lines constitute grandeur; flowing and light lines compose delicacy.

The first striking feature in a profile is, the NOSE, whose lines ought to be simple and gentle: any strong inflexion of the nose is unbeautiful; if the nose joins the forehead by any depth, it is so far not beautiful: but if by a small sinking, it is graceful.

The FOREHEAD is a considerable feature in a beautiful head; but, perhaps, is seen to most advantage in front: if too high, it may be partly concealed by the flowing of the hair; but if too low, the defect is not so easily remedied.

The EYES are extremely important in regard to Beauty: moderately large eyes are preferable to small ones. Eyes if too large, are apt to stare; modesty may somewhat remedy this; but if too small, they are beyond assistance.

The EYE-LIDS are naturally flexible; their motion is, as it were, a gliding; consequently a stiff line is ill applied to them: an easy, tender, smooth line, (and neither too open, nor too shut) suits this feature.

The EYE-BROWS assist, and, as it were, complete the beauty of the Eyes; they should possess an agreeable arch; the hairs which adorn them should be fine; and certainly, the brows should be distinct from each other, and not united, notwithstanding the poetical authority of THEOCRITUS, or any other bard, whose mistress might happen to be thus distinguished.

The MOUTH may dispute with the Eyes for beauty: its form is made to produce a full effect; the upper lip is narrower than the under lip, which is somewhat fuller: this contributes to the pleasing rounding of the chin. The Mouth not altogether closed, has an agreeable effect in picture. As to the effect of the teeth, as in laughing, &c. it is not always happy; and was seldom expressed by the Ancients, who rarely chose to open the Mouth beyond a cautious moderation.

The CHIN has often, in nature, a dimple in the middle of it: which is, frequently, thought very pleasing; it is, however, remarkable, that the ancient artists rather preferred a full, round, rising, chin, without this division of its surface: which certainly in some degree breaks the uniformity of its figure, and of the light which it reflects. The *Venus* of *Medicis*, however, has this dimple; but rather as contributing to softness of expression, rather as a delicacy, than as a part of superior beauty. "This," says VARRO, "is an ornament impressed by the finger of love;" and this he might have said of any other dimple.

The EARS are a feature of some difficulty to manage well; they have, undoubtedly, their beauty, when rather plump, and rounded; but they are often concealed, at least in part, by the hair, and, so far as I can judge, without any loss of beauty to the countenance in general. It should appear as if they are least pleasing when too much enlarged: to keep them rather within their proper limits in respect to size, may therefore, perhaps, be thought most adviseable.

The HAIR of the head is certainly a beautiful ornament, when it takes around the face a gently gliding shape, free from angles, or sharp turnings; not ending suddenly, or harshly: by such a form it contributes very much to an elegant termination of the composition of a face. As to the various combinations of which it is capable, or to which it has submitted, as an article of dress, they need no illustration here.

As the head is the chief seat of beauty, and is in our country the part most generally exposed, we are best capable of forming a judgment respecting it; a few words will contain all we shall offer on the beauty of the other parts of the figure, without meaning to deny that those parts also, are capable of beauty to any supposable degree.

The BREAST of the stronger sex is beautiful, if it be bold, open, clear, and broad; expressing manly vigour, and alacrity: the bosom of the fair sex, is less ample, and less *square*, is more rounded in its general form, and more elevated, though yet but gently. To the SHOULDERS may be applied much the same idea.

The ARM and the LEG are capable of great beauty: in the arm this is very much assisted by graceful action: and it must be owned, the elegance of a well turned arm, is very impressive. Gliding lines have here their full power.

The KNEE is a joint very difficult to manage in respect of beauty: the number of parts which are here assembled, embarrass the general effect; if they are distinctly treated, they suffer as a whole; if they are *slurred* (as musicians speak) they seem to contravene the intention of Nature, that is strength. As this part is but little exposed among us, we are deprived of those opportunities of studying it which warmer climates afford, and consequently we rarely see it beautifully represented.

Beauty of form shews itself most explicitly in the extremities of the figure, the hands, and the feet.

The beauty of the HAND consists in a pleasing, moderate, plumpness, without hardness of any kind; the fingers gradually lessening, with an agreeable easy diminution, the nails not very long, or powerfully marked; I think, artists in general are too apt, through desire of delicacy, to represent the fingers as too thin: they rather resemble sticks, than fingers: but, by this remark, I do not mean to recommend clumsiness.

The custom of wearing shoes, while it deprives the artist of an opportunity of studying a beautiful Foot, conceals the deformity which is but too general among us: anciently, handsome toes were as much esteemed as handsome fingers; but, now, where shall we find them? The fact is, that even the bones of the foot are compressed and displaced by the bandages we wear, and we cannot even find a skeleton to be *mounted* for a surgeon, which has the bones of the toes, &c. placed as they ought to be: whether this be an improvement on Nature, I submit to those whom it may concern.

There is in the human mind, a principle, which refers to *self* every observation made on certain qualities; and among these, the quality of external form may be regarded as occupying a principal place. Is it because the mind, conscious of superiority, is jealous for the reputation and character of its dwelling? is it because, though it finds itself comfortable and easy in a thatched cottage, it beholds with emotion the palaces of others? or, is it because praise appears to us so great a blessing, that, while it circulates around us, we grudge if we receive not our share? but wherefore should external form expect praise? Is it in our power to obtain? No; it is bestowed: Is it complete in any? Nature is not so partial: Is it wholly with-held from any? Nature is not so unjust. If, then, Nature has imparted to each a portion, and each still wishes for more, is there no means of augmenting that portion? Is it not capable of improvement? Surely, it is.

Cosmetics and beautifiers have been long in vogue; their little success might justify their disuse: yet there is a cosmetic, an essence, highly recommended as exalting ordinary features above beauty itself: which gives to the eye the most lively sparkle! to the cheeks the sweetest glow! It is a kind of perfume whose fragrance diffuses itself from the bosom, (where it is worn), and, pervading every limb, kindly animates the whole figure. When very highly rectified, it is proof against accidents, and, if carefully preserved, (which is well worth while) will often recover from dangerous distempers. It is even said, further, that the very tincture of it is not to be despised, that beauty itself is improved by it; and indeed is disgusting without it: —while those who possess it, though perhaps at first sight appearing little likely, yet on further acquaintance, by its influence, excite attachments more general, more honorable, and more durable, than ever did the most exquisite form. This is not offered as a new discovery; old HOMER knew it, and has mentioned it; blind as he was, he was not blind to this; he tells us, the very queen of heaven, conscious of her beauty and majesty, was conscious too how indispensable was this essence; this she condescended to borrow, and this she bound around her in—the MAGIC CESTUS of VENUS.

# PROPORTIONS OF THE FIGURE.

The QUARTER PARTS of the figure are at

I. The arm-pits.
II. The bottom of the trunk.
III. The knees.
IV. The sole of the foot.

The sole of the foot is one-sixth part of the height of the figure; but this measure is generally thought too long.

The longest toe is one nose long.

The hand is the length of one face.

Twice the breadth of the hand gives its length.

The breadth of the hand is equal to that of the foot.

The thumb is one nose in length.

The HAND being capable of an almost infinite multitude of motions, requires much observation to represent it justly; since in every attitude some part or other will vary from its given dimensions, by being *foreshortened.*

It is a good rule, "be careful not to make hands too large, nor their fingers too long."

The FOOT is by no means so facile in its movements as the hand, nor capable of so great variety of attitudes.

As these extremities are seldom, or never, hid by any figure, in any action, they require the greater attention and observation in nature: their perpetual and infinitely varying movement, precludes the possibility of measures for their breadth, since the least change from the original attitude, would totally derange such measures, though never so judicious.

These measures may suffice for imparting a general idea of the proportionate dimensions of these parts; the smaller divisions, such as the knuckles, and joints of the fingers, those of the toes, the length of the nails, &c. are too obvious to need insertion.

# LIST OF PLATES

BELONGING TO

# LECTURE VIII.

.........

## PLATE LXXX.

According to GERARD DE LAIRESSE, the following are the distances of the parts of a figure, by actual measurement.

### HEIGHTH OF A FIGURE.

| | | | Man. | Wom. |
|---|---|---|---|---|
| From the sole D, to the ancle joint | | parts | 2 | 1½ |
| Thence to the inward calf of the leg | | - | 2¼ | 3⅓ |
| To the | outward ditto | - | 0⅓ | 0½ |
| | bottom of the knee | - | 3 | 3¼ |
| | knee pan | - | 0⅔ | 0½ |
| | upper part of the knee | - | 0¾ | 0¾ |
| | thigh | - | 3 | 3 |
| | buttocks | - | 2 | 0¾ |
| To B. the middle of the body | | - | 1⅓ | 1 |
| To the | navel | - | 3 | 3 |
| | hip | - | 1 | 1 |
| | pit of the stomach | - | 2 | 2½ |
| | arm-pit | - | 1⅔ | 1½ |
| | shoulder | - | 2 | 2 |
| | pit of the neck | - | 0¾ | 0½ |
| | chin | - | 0¾ | 1½ |
| | nose | - | 1 | 1 |
| | eyes | - | 1 | 1 |
| | forehead | - | 1 | 1 |
| | hair | - | 0½ | 0⅓ |
| | crown of the head | - | 0⅔ | 0⅔ |

BREADTH

## BREADTH OF A FIGURE IN PROFILE.

| | | Man. | Wom. |
|---|---|---|---|
| The | foot is long | parts $4\frac{3}{4}$ | $5$ |
| | joint | $1\frac{1}{3}$ | $1\frac{1}{3}$ |
| | calf of the leg | $2$ | $2\frac{1}{4}$ |
| | under part of the knee | $2$ | $2\frac{1}{4}$ |
| | upper part of the knee | $2\frac{1}{4}$ | $2\frac{3}{4}$ |
| | thigh | $3\frac{1}{3}$ | $4$ |
| | end of the buttocks | $3\frac{1}{2}$ | $4\frac{1}{4}$ |
| At the navel | | $4$ | $4\frac{1}{2}$ |
| The | hip | $4$ | $4$ |
| | pit of the stomach | $4\frac{1}{2}$ | $4\frac{1}{2}$ |
| Over the arm-pit | | $5$ | $4\frac{2}{3}$ |
| The | shoulder | $3$ | $3\frac{1}{2}$ |
| | pit of the neck | $2\frac{1}{2}$ | $2\frac{1}{2}$ |
| The head is square | | | |

## BREADTH OF A FIGURE BEHIND.

| | | Man. | Wom. |
|---|---|---|---|
| The | foot next to the outward ancle, | parts $1$ | $1$ |
| | foot joint | $1$ | $1$ |
| | inward calf of the leg | $1\frac{2}{3}$ | $1\frac{1}{2}$ |
| | outward calf | $2$ | $2$ |
| | under part of the knee | $2$ | $2$ |
| | upper part of the knee | $2$ | $2\frac{1}{3}$ |
| | thigh | $2\frac{3}{4}$ | $3\frac{1}{3}$ |
| | end of the buttock | $2\frac{3}{4}$ | $3\frac{1}{2}$ |
| | middle | $6$ | $7\frac{1}{3}$ |
| At the navel | | $5\frac{1}{2}$ | $6$ |
| The | hip | $5$ | $4\frac{3}{4}$ |
| | pit of the stomach | $5\frac{1}{2}$ | $5\frac{1}{3}$ |
| Over the arm-pits | | $8$ | $7\frac{2}{3}$ |
| The | shoulders | $5\frac{1}{4}$ | $6\frac{1}{4}$ |
| | pit of the stomach | $5\frac{1}{2}$ | $5\frac{1}{3}$ |
| | chin | $2$ | $1\frac{3}{4}$ |
| Under the nose | | $2\frac{2}{3}$ | $2\frac{3}{4}$ |
| Over the eyes | | $3\frac{1}{4}$ | $3\frac{1}{2}$ |
| The | forehead | $3\frac{1}{4}$ | $3\frac{2}{3}$ |
| | beginning of the hair | $2\frac{3}{4}$ | $3\frac{1}{2}$ |

PLATE

## PLATE LXXXI.

## BONES OF THE ARM AND OF THE LEG.

This Plate shews the variations produced by their movements: in which it appears that the arm when straight, measures less in length from A. to B. fig. 1. than it does when partly bent, by the distance C. D. fig. 2. and that the distance is greatly encreased by the further bending C. D. in fig. 3.

Fig. 4. and 5. shew, that the motion of the foot affects the juncture of the foot, enlarging it when acute as D. E. F. and lessening it when obtuse, as A. B. C. The effect of motion on the knee appears to be similar to that of the elbow, as G. H.

## PLATE LXXXII.

ARMS, measured from the Antique.

## PLATE LXXXIII.

LEGS, measured from the Antique.

## PLATE LXXXIV. CHILDREN's HANDS.

## PLATE LXXXV. CHILDREN's FEET.

## PLATE LXXXVI. HANDS, parts of the figure.

## PLATE LXXXVII. ARMS, parts of the figure.

## PLATE LXXXVIII. HANDS, parts of the figure.

## PLATE LXXXIX. FEET, parts of the figure.

PLATE XC. FEET, parts of the figure.

PLATE XCI. FEET, parts of the figure.

PLATE XCII. LEGS, outlines, parts of the figure.

PLATE XCIII. LEGS, finished, parts of the figure.

PLATE XCIV.

PARTS OF A FIGURE OF VENUS, measured from the Antique.

PLATES XCV—XCVI.

ANTINOUS, measured from the Antique.

PLATES XCVII—XCVIII.

THE SAME FIGURE: back View; measured.

PLATES XCIX—C.

MEASURES OF AN ANTIQUE FRAGMENT, Supposed by the AUTHOR of ANTINOUS.

PLATES CI—CII.

ANTIQUE BOY: Whole Length, measured from the Antique.

# LECTURE IX.

……

## CHARACTER OF THE FIGURE.

……

Ladies and Gentlemen,

We propose now to investigate some of the principles which impart to the human figure those distinctions which are understood by the term Character. I have no need, at this time, to explain the term, because, so far as it relates to the countenance, we have pretty largely attended to character at a former opportunity; as many of the remarks then offered are equally applicable to the figure, it is my present design, and I presume it will be most agreeable to my auditors, only to offer such additional observations, as are most intimately connected with our subject, which is, the character of the figure.

If the proportions of the figure were always the same, there would be no occasion to propose any division of character as relating to different periods of life, since children would then be men and women, differing only in stature. I remember, when I visited Paris, I was at first not a little embarrassed at a deceptive metamorphosis of this kind; the boys were so disfigured by bags to their hair, and swords by their sides; the girls in hoops, sacques, and têtes, that, after my utmost researches, I gave up the expectation of finding CHILDREN in that city: at the same time, congratulating my native land, that the sweet simplicity of childhood, the engaging attractions of youth, were neither absentees, nor rarities, there. I may therefore frankly appeal to your own observations, LADIES and GENTLEMEN, for the propriety of my remarks on this period of life.

As CHILDHOOD has a constant tendency toward maturity, it is necessary, that it should be furnished with sufficient moisture, and spirits, to recruit their perpetual consumption. Children are therefore fatter, and more plump in their members, than persons of maturer years; whose increase having fed, as it were, on their stock of juices, has exhausted the superfluity of their youthful state. In fact, the progress of human life is from moist to dry; from superabundant spirit, activity, and glee, to solidity and firmness, succeeded by rigidity and weakness. Accordingly, children are, in the *length* of their members, only half the distances of maturity, but in the thickness of their muscular measures they are much more than proportionate. Instead of being the distance of two faces from the shoulder to the elbow, they are only one; the same across the shoulders, and in the legs.

We have formerly noted, that a man measures in height seven and a half heads, or ten faces; but observe, that, infants measure only *five* faces, and children five heads in height: as they advance in stature they approach nearer to the proportions of maturity.

As those who grow fastest not only become taller than others, but likewise more speedily exhaust their fulness of flesh, they seem to grow swifter than they really do; their thinness making their proportions seem longer than they otherwise would appear.

The innocence, the simplicity, the endearments of childhood, have given occasion to artists to introduce a very numerous family of characters, which children contribute to express; that powerful deity, CUPID, stands at their head, and with his extensive retinue of loves, makes a conspicuous figure. These are extremely useful to painters, and to poets, on sundry occasions, and serve to indicate, or to explain, their ideas, where mortal men are forbidden to appear. So far as mere allegory, or allusion to ancient mythology, &c. requires them, I accept their services; but, I by no means approve of their introduction in scripture subjects, as if they were cherubim; for the cherubim were not infants heads with wings at the neck (as usual in a painter's heaven), but hieroglyphical compositions of various animals, united, and cloathed with wings; with two covering their faces, with two others covering from their hips downward, and with two flying.

I shall remark here, though somewhat before its place, on the figures of ANGELIC BEINGS, that they should have most elegant and graceful proportions, such as appear best fitted for speed, and celerity. Our idea of them is, that they are spirits assuming a visible form to render the services they have in command: The wings we usually give them, express their rapidity, their more than human speed, while at the same time they distinguish them: but it seems evident by every relation of their appearances, that they assumed completely the human form, and were not discovered by those to whom they were sent, till the purposes of their mission were accomplished, and themselves revealed the secret.

One can hardly say, that, by association of ideas,—after angels come devils! yet as, by arranging together personages of contrary characters, the contrast may render more sensible the peculiarities of each, we shall here advert to some of those less amiable forms, whose introduction is sometimes absolutely necessary, to explain the subject of a picture, its occasion, or its consequences.

SATAN, as having been an angel of light, should be supposed to retain, notwithstanding his fall, many of those elegancies of person, and manners, which we attribute to angels: the ideas of malignity, cruelty, envy, fraud and rebellion, which compose the moral character of this infernal foe, should be combined with more beauty of figure than is usual. Is it a thing utterly unheard of among mankind, that a fair face should shroud a false heart? that an agreeable external appearance should be contradicted by internal depravity? and if this occurs among mankind, why may not the idea be tolerated, when transferred to other natures?

But let me state this clearly: the *historic* character SATAN may be treated differently from the vulgar character the devil: and while we leave to the vulgar their devil, or even on vulgar subjects conform to vulgar conceptions, we ought, I think, where the elevated style of history, as employed on superior subjects, admits, or rather requires, to depart from that uncouth representation usually given to this character, and to treat him with more dignity, though fallen, than has commonly been his portion. Let me not be thought too kind to Satan; yet, might I quote the proverb, I should apply it to express my opinion, that artists have rarely "given the devil his due."

It is sometimes necessary, in picture, to represent ideal personages of another class; such as supposed demons of air, earth, or water, who, when raging in storms, tempests, earthquakes, &c. require a distinction of character correspondent to their offices, and to the employments respectively assigned them. The same may be said of the passions of the mind, when introduced, and of diseases of the body. If an artist has to represent the figure of pestilence, for instance, the character of this ideal personage should conform in some degree to the effects produced by his influence; if the disorder produce paleness, leanness, debility, some indication of these should appear in the agent who directs, promotes, and diffuses the disorder; whereby the nature, or cause, of the disorder, may be suggested to the eye of the spectator, that the subject may be understood without a comment.

The same principle applies to representation of the passions; the effect they produce on the mind is usually accompanied by some correspondent effect on the body: this effect on the body, then, must be the mean employed by art to indicate what passes in the mind; and must be introduced for that purpose, in compositions which require such accompaniments.

There are two subjects which, rarely, are well characterized by artists; and indeed, to characterize them well, it must be admitted, is very difficult. I mean TIME, and DEATH.

TIME has been so long running his course, that now he is certainly old, and must be represented as an old man; yet an old man without decrepitude, without weariness, without that *inertia*, which accompanies human age: for, does not Time still run his course, as quickly, as ever? and still urge, with unabated rapidity, his unwearied flight? This, then, requires signs of strength, of vigour, of ability, which seem contradictory to what is just remarked of his age: now, in one, or other, of these respects, artists often err; they represent a figure too young for old Time, if they attend to the idea of vigour; too feeble for ever-moving Time, if they attend to his age, and past duration. Perhaps this subject should be treated on somewhat new ideas: what forbids our regarding Time to come—as an infant,—or a child,—or a youth (according to its supposed distance from us); Time present—as an adolescent, or of mature age; Time past—as declined into imbecility, expressed by the tokens of age, and weakness? and, indeed, it ought to be remembered, that, although the employment of Time has long been allegorized by his scythe and his hour-glass, yet destruction is not his only occupation: though he sweep away part of the human race, yet another part he ushers into existence; and he is no less active in renewing the generations which are to succeed, than in withdrawing those who are no longer to continue. Nor is this confined to the human race: our joys, our sorrows, events prosperous or adverse, what we expect with eagerness, what we dread with anguish, these are all under the conduct of Time: are not these ideas too dissimilar in their natures to be adequately represented by one figure, with one kind of distinguishing *insignia* only?

DEATH is not thus impartially employed; he introduces none to supply the vacancy occasioned by the absence of those he removes; he carries off, but he *brings* none in return. Death, therefore, may be justly symbolized by *insignia* restrained to his devastating office. It is usual to personify Death by a skeleton; but the propriety of this image may, I think, be doubted. A skeleton has not those parts which are necessary to the performance of any bodily action; an *active* skeleton is, therefore, a contradiction: and as to a figure extremely thin and meagre, covered merely, as it were, by a membrane, (which is sometimes substituted) I certainly cannot recommend it as picturesque; for surely this is hideous: in every view, then, this figure has its difficulties; which render a better emblem highly desirable.

To return to the sons of men: as ADOLESCENCE and YOUTH succeed to childhood, the measures of the figure continue approaching to those of maturity: of these measures we have spoken as they are generally applicable, but as every person is not exactly alike, personal variations must be referred, principally, to natural character.

Here I entreat the attention of my auditors to their own recollection, and observation; for character being continually before us, we are accustomed to judge for ourselves with sufficient certainty. Whenever we have seen bending beneath the weight of his burden, a slim spindle-shanks, whose form scarce indicated strength enough to support his knot, we have felt that such a figure is equally *out of character* for a porter, as it is to employ a Hercules in measuring a yard of gauze.

As character is most conspicuous at maturity, we shall here pay attention to those of its branches, which, we before observed, might be referred to the SEXES, to the natural INCLINATIONS, and to the acquired HABITS of mankind.

The distinct character of form in the SEXES is sufficiently apparent, and perfectly correspondent to the general bias of their minds: in the female sex, we observe, and permit without complaint, an earlier and more lively sense of danger, because the female form is less calculated for resistance and combat: whereas, similar alarms would offend us in a man, whose bolder nature is supported by superior strength. On the same principle, the graces of an elegant woman, are inconsistent with the athletic figure of a man. When a man assumes the softness and delicacy which belong to the other sex, he contradicts the course of nature, and becomes a just object of ridicule; as when a woman acts the hero, or becomes a good fellow, she has quitted her sphere, lost her attractions, and forgotten her very self. Each sex has employments and duties proper to it, nor is any thing more satisfactory to a virtuous mind, than to see them discharged with readiness and pleasure; —except the consciousness of being so engaged.

Whatever absurdities displease us in real life, should be avoided in representation: as, on the contrary, whatever is esteemed excellent, or honourable, especially, if characteristically excellent, or honourable, should be the object of an Artist's imitation.

Female figures should not only be characterized by a general grace, but likewise by the delicacy of the particular parts. The neck of a lady is very different from that of a man; being more slender, the muscles less conspicuous, the cavities between them less sensible, and in its turns more graceful.

The muscles of a man's arm are bold, and prominent; the more tendonous parts, such as the wrist, and back of the hand, shew evidently, as it were, the nature of their component parts, even the veins appear swelled and large: compare with these the same parts in the other sex, and we find a plumpness, a roundness, almost an *evenness* throughout the whole. None of us (Gentlemen) pretend to equal the slender wrists, the delicate hands, the flexible and taper fingers of our fair associates; we yield to them beauty, elegance, grace, happy to think these too become our own, when their hearts bestow their hands!

To resume our proposed order; the same causes which inscribe the mental characters of mankind on their faces, contribute to render their figures expressive of NATURAL DISPOSITIONS, some are fat, others lean; some heavy, others light; some tall, others short; and by this diversity, to the very great and general advantage of mankind, one person is distinguished from another. The manner and air of those with whom we are intimate, is so strongly impressed on our minds, that we can scarce mistake them even in a crowd: if there be nothing peculiarly striking in their gait, there is yet such a general correspondence of appearance as clearly identifies their persons.

I have indeed heard of brothers extremely like each other; and I recollect an instance (which is inserted among the French trials) of two persons so precisely similar in features, gait, manners, voice, height, and even in the moles on their faces, and other parts, that one personated the other; and was by his relations, his acquaintance, and even by his wife and children, admitted to the rights of the other. They had been comrades in the army, where the personated informed the personator of his intimate concerns, very circumstantially, by which knowledge the deceiver long maintained his credit. He was at last suspected on account of an estate which he wanted to sell; the magistrates of the place determined in his favour; his opponents applied to a superior tribunal, which decided against him; in consequence, he boldly appealed to the parliament as the *ultimatum:* but, while matters were thus situated, the real and proper person returned from the army, having lost a leg:—which loss was the only difference whereby a casual observer could have distinguished them. The impostor ended his life on a gibbet.

This singular fact evinces the propriety of the observation, "no rule without exception," an observation which (if any where) might, I should otherwise have thought, have met a contradiction on the subject of character.

Natural disposition is confirmed in its effects on the figure when it is corroborated by acquired habit. Should we abstract from FALSTAFF's figure, his round belly and swollen appearance; and describe him as thin and meagre, would such description be thought natural? The effect of that course of life to which he is supposed to have been addicted, is certainly what we find in him: not indeed punctually as he describes himself, 'a goodly portly man, i'faith, and a corpulent; of a cheerful look, a pleasing eye, and a most noble carriage;' but rather, as 'a tun of man, a bombard of sack;' as FLUELLEN has it, 'the fat knight with the great pelly-doublet, full of gests, and gypes, and knaveries, and mocks.' As a contrast to this great-pellied man, observe, 'that bearded hermit-staff justice SHALLOW, a man made after supper of a cheese-paring, a forked radish, with a head fantastically carv'd upon it, so forlorn, that his dimensions were to any thick-sight invisible, the very genius of famine, you might have trussed him, and all his apparel, into an eel-skin.'

The same poetical authority, in opening the mental disposition of RICHARD III. makes him thus comment on the *character* of his figure:

'I, that am rudely stamp'd, and want love's majesty—
I, that am curtail'd of this fair proportion,

Cheated of feature by dissembling nature,
Deform'd, unfinish'd, sent before my time
Into this breathing world, scarce half made up,
And that so lamely and unfashionably
That dogs bark at me, as I halt by them'—

Is there any wonder such a cramped figure should be the seat of a mind full-fraught with villainy? or that the human "bottled spider" should possess a venom far worse than that of the insect?

What the real character of many persons might be, abstracted from their PROFESSIONAL HABITS, is not easy to say; as we do not see them till those habits are formed, and as attentive observers may fail in their endeavours to make just allowance for the force of custom. That professional habit is very powerful, and very evident, must be granted, when we recollect the frequent remarks continually made on the subject. Observe how conversation runs upon it: "Such a person looks like a divine; or at least like a student: such another, has a very warlike mien; is quite weather-beaten; very bluff; a right-down sailor, or soldier," &c.

Certain it is, that a constant habit of moving any member of the person in one direction, will impart to that member an aptitude to fall into that direction on every occasion, whether connected with its original cause or not. A baker who has been used to carry a bread-basket on his shoulders, always retains in walking somewhat of an air as if loaded; nay, I have been shewn instances of that perpetual jerk of the shoulders which eases the weight of the basket, remaining long after the person had left off that business. Persons used to exert great strength in their arms, can scarce handle any thing lightly: if a couple of butchers *pat* each other on the shoulder, 'tis with nearly as much force as would knock down an ox.

I think it worth observing, that this effect is also evident among animals: I have noticed many a team of horses, taken off from the waggon, and going to some other part of the farm yard, or along a street, in which all the fore horses have *pulled* the hinder ones, as if they had also the whole weight of the waggon behind them: so abiding is the force of custom!

Weariness and vigour cause a difference of character in the same person, at different times; the same man is taller in the morning than after he has done a hard day's work; he has *really* lost of his height, and he has lost very considerably, of his apparent vigour and strength.

Apparent vigour and strength are certainly more evident in those who follow trades which require great exertions of body, than they are in sedentary professions. Perhaps, I ought also to say, that, there is a difference in the character of those who reside in great cities, from those who breathe the fresh air of the country; this I suppose has frequently been noticed; and not always to the advantage of the citizen.

Character is most apparent in those parts of the body which are most exercised, they being more strongly *impregnated* (shall I say) with its principles: hence those persons who use little exercise can shew little vigour in any part, or in the whole figure; and hence those used to labour shew the effects of it throughout.

"When we consider the great weight chairmen often have to carry, do we not readily consent, that there is a propriety and fitness in the Tuscan order of their legs, by which they properly become characters as to figure? Watermen too are of a distinct cast or character, whose legs are no less remarkable for their smallness; for as there is naturally the greatest call for nutriment to the parts that are most exercised, so of course those which lye so much stretched out, are apt to dwindle, or not grow to their full size; so that a broad pair of shoulders, and spindle shanks, may be thought to distinguish this class of men."

And is not custom, or habit, if not a source of grace, yet one cause that grace shews itself in the *general* movements of persons in the better ranks of life? I have indeed seen a country wench perform some one action, as genteelly as the most elegant lady could have done it, because it was a natural offspring of the mind; but immediately has that grace been quashed by a return to vulgarity. Such instances, however, serve to shew, that want of education in the precise fashion of motions, is no invincible impediment to graceful address, in a person of an ingenuous and liberal disposition of mind: but, when such a mind is happily instructed by precept, the effect communicates itself throughout the whole of that person's manners.—And while manners make the man, the clown, whose thoughts are perpetually recurring to his wealth, whose pride of purse is his imaginary excellence, shall be contemned and neglected, and the epithet 'much of a gentleman' be bestowed on one of half his estate.

The character acquired by habit, is so strong, that many persons used to courts have been discovered through the disguise of peasants; as where is the peasant whose demeanour would comport with the behaviour becoming a drawing-room?

These, or similar ideas, are so evident among mankind, that they have been transferred and attached to imaginary beings also; and according to the respective *professions* of gods and goddesses, have been the proportions technically assigned them. DIANA as an huntress, must be light and agile; MINERVA may be more robust; APOLLO would be strangely described by the heavy dimensions of NEPTUNE or PLUTO; as NEPTUNE or PLUTO would think themselves 'vilely fallen away,' were their limbs as slender as those of the god of day.

Mr. HOGARTH has attempted to set this article in a clear light; and his remarks merit attention: as we already have suggested somewhat the same mode of proceeding, we shall introduce them without any further remark. "Having set up the Antinous as our pattern, we will suppose," says he, "there were placed on one side of it, the unwieldy elephant-like figure of an Atlas, made up of such thick bones and muscles, as would best fit him for supporting a vast weight, according to his character of extreme heavy strength: and, on the other side, imagine the slim figure of a Mercury, every where neatly formed for the utmost light agility, with slender bones and taper muscles fit for his nimble bounding from the ground.—Both these figures must be supposed of equal height, and not exceeding six feet.

" Our extremes thus placed, now imagine the Atlas throwing off by degrees certain portions of bone and muscle, proper for the attainment of light agility, as if aiming at the Mercury's airy form and quality, whilst on the other hand, see the Mercury augmenting his taper figure by degrees, and growing towards an Atlas in equal time, by receiving to the like places from whence they came, the very quantities that the other had been casting off, when, as they approach each other in weight, their forms of course may be imagined to grow more and more alike, till, at a certain point of time, they meet in just similitude; which being an exact medium between the two extremes, we may thence conclude it to be the precise form of exact proportion, fittest for perfect active strength, or graceful movement; such as the Antinous we proposed to imitate and figure in the mind.

" We may illustrate it a little more, by observing, that in like manner, any two opposite colours in the rainbow form a third between them, by thus imparting to each other their peculiar qualities; as the brightest yellow, and the lively blue that is placed at some distance from it, visibly approach, and blend by interchangeable degrees, and, as above, temper rather than destroy each other's vigour, till they meet in one firm compound; whence, at a certain period, the sight of what they were originally is quite lost; but, in their stead, a most pleasing green is found, which colour Nature hath chosen for the vestment of the earth, and with the beauty of which the eye is never tired.

"From the order of the ideas which the description of the above three figures may have raised in the mind, we may easily compose between them various other proportions,"—as so many mixtures of colours.

Quitting these ideal personages for the humbler station of mankind;—we observe that, as human life advances, CHARACTER assumes other distinctions of appearance: our composition, intended for a limited duration, falls gradually to decay; the spirit and firmness of maturity decrease to inactivity, and indecision. Having strength to spare, youth may stand on one leg, yet sustain itself well; age requires always two, and sometimes calls in additional support, in conformity to the riddle which represented man as "a creature of four legs in the morning, two at noon, and three at night."

"To represent an old man standing," says LEONARDO DA VINCI, "you must give him a dull, indolent attitude, with slow motions, his knees a little bent, his feet straddling, his back crooked, his head stooping forwards, and his arms rather folded than spread too wide."

Age being deficient in strength, exerts the whole body, to perform what at the noon of life would have required only a part, or a single member.

The imbecility of age is exquisitely drawn by the Royal Author, on whose words, were I to enlarge, I might comment, thus: "Remember now thy Creator, in the days of thy youth, ere the evil days come, or the years approach, wherein thou shalt complain, I have no pleasure." When the mental abilities shall have been gradually decaying; when the reasoning, the conceptive, the reflective, the excursive powers shall forego their faculties; when, what was once bright as the meridian sun, splendid as the beams of noon, shall be diminished to a few rays of ambiguous twilight, or to the feeble, the frigid lustre of the ever-changing planet; that feeble lustre abating to the obscure glimmerings of distant stars, intercepted by clouds, thick clouds, clouds like those which accompany rain.——

In that day the keepers of the house (the arms) shall tremble, the strong men (the legs) sink beneath their burden, the grinders (the teeth) fail, unable to discharge their office. The once brilliant inspector is dark and useless: where is its vivid lightning, its penetrating influence? the sparkling eye is extinct! The pleasant voice is mute, whose gentle accents formerly delighted an attentive family, or cheerful friends; which diffused sprightly wit, or darted mirthful sallies; which promoted the loud carol, and assisted the joyous song: the daughters of music are enfeebled, the lips refuse their utterance, the tongue declines its duty; the carol, and the song, give place to fear; fear of accident from above, fear of danger from below. The once auburn locks are now white as the blossom of an almond; the once vigorous body is now emaciated, yet, the emaciated body is a burden to its supports: and desire fails. What! no desires! no wishes! no requests! None. Because

cause man departeth to his long home, and the mourners go about the streets. The silver cord (the spinal marrow) is loosed, the golden bowl (the skull) is broken, the pitcher at the fountain is destroyed (the larger vessels, *aorta*, &c.); the wheel at the cistern (the heart and its motions, *systole* and *diastole*) is ruined; the dust returns to its origin, the earth; the spirit to the Author who imparted it.

Thus have we closed the history of life, and thus we close the article CHARACTER: we lay down in the silent tomb the mortal part of our nature, and await that reviviscence which we are taught to expect: what may be the CHARACTER of the bodies we shall be favored with when we are again called to inhabit such vehicles, we cannot say: it is enough for us to conclude, from the benevolent omnipotence of their Author, that they will be every way fit for our habitation; and every way worthy the power, the dignity, and the kindness, which has prepared them for us.

## ADDENDA TO THE ARTICLE CHARACTER.

THE variety of CHARACTER among mankind has given occasion to an equal variety of measures and proportions, each claiming to be adopted as a system of principles. Some masters are fond of the slender, which they think genteel; others are not satisfied, unless they represent the quality of strength in an eminent degree; and these make every figure brawny and muscular: so that while by some masters figures are drawn to the proportion (or rather disproportion) of ten heads; others are equally absurd in adopting less than seven heads. We have given the general and regular medium, to which, in temperate climates, mankind most usually correspond. It has been observed in the LECTURE, that in the colder climates of the globe, the inhabitants seem shrunk into dwarfs: we may add, that beneath the Torrid Zone the inhabitants are more slender and spare; to this, among other causes, the manner of their living may much contribute, as well as the nature of their climate. It is evidently impossible such diversity can be reduced to measurement; and every attempt of that kind is, and must be, fallacious. The variety of character found among any single nation, may defy the most indefatigable to reduce it to systematic measures: of which any person may judge, who, in a crouded street, will observe the passing populace—some may be very tall, others very short; but the generality will justify the principles we have adduced. It may be worth while just to hint, that the proportional parts of brute animals do not fall into divisions by any means so regular as those of the human figure; on the contrary, to measure them by dimensions of their heads, or their heads by divisions of their noses, would be evidently absurd; and yet in these subjects a distinction of character is abundantly visible; and very lately a shepherd has sworn in a court of justice, that he knew each individual sheep of his flock by its countenance (a circumstance which the judge said was not new to him); such is the unlimited fertility of Nature!

It might have been observed in the LECTURES, that both gigantic persons, and dwarfs, have generally very large heads. The tallest person we remember (BAMFORD, the Hatter of Shire-Lane) was proportionably large in his figure; but he purposely stooped considerably, to conceal as much as he could his extraordinary height. All the dwarfs we have ever seen, have had large heads; and, in general, members too small for their bodies: indicating a preternatural conformation of their parts; and a great deviation from the usual course of nature.

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Mr. GRAINGER, in his "Biographical History" (which is a list of portraits) gives an account of "The lively portrait of BARBARA, wife of Michael VAN BECK, born at Augsburg, in High Germany; the daughter of Balthasar and Anne Urster aged 29. A. D. 1651."

The face and hands of this woman are represented hairy all over. She has a very long and large spreading BEARD, the hair of which hangs loose and flowing like the hair of the head, &c. [This print we have seen, and confirm Mr. G.'s description of it.] Such another lusus naturæ is "ANNA MACALLAME, born in the Orkneys in Scotland, A. D. 1615, being presented to the king's majesties sight, October 1662." She is represented in a fur cap and man's gown, her BEARD is very large, and like an old man's: the following verses are under the print.

> Tho' my portraicture seems to be
> A man's, my sex denies me so;
> Nature has still variety,
> To make the world her wisdom know.

Mr. G. adds, "I saw, A. D. 1750, at the palace of St. Ildefonso, in Spain, a portrait of a Neapolitan woman, with much such another BEARD as Anna Macallame's. I also saw, a woman at Rotherhithe, with a masculine BEARD. The largest of these is by no means comparable to that of BARBARA VANBECK."

These instances of nature's excentricity, may be added to that mentioned in the LECTURE in confirmation of the proverb, 'no rule without exception:' these are striking exceptions surely!

I do not find, notwithstanding their singularity, that the proprietors of these beards were considered as *witches*, although such an excrescence was a principal mark attributed to that kind of gentry; "I think the 'oman be a witch indeed, I spy a great *peard* under her muffler," says parson HUGH *. The errors of superstition are banished; certainly the fair sex are more fascinating witches, *without* this appendage than with it.

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We are told of ALEXANDER, that in order to preserve his *character* of personal representation, he forbad all Artists to represent him except APELLES the painter, and LYSIPPUS the sculptor in brass: not less scrupulous on the subject of her *character*, was our Queen ELIZABETH, as appears from a proclamation, dated 1563, which prohibits "all manner of persons to draw, paynt, grave, or pourtrayit her majesty's person or visage for a time; until by some perfect patron or example, the same may be by others followed, &c. and for that her majestie perceiveth that a grete nombre of her loving subjects are much greved, and take grete offence with the errours and deformities allredy committed by sondry persons in this behalf, she straightly chargeth all her officers, and ministers, to reform these errors, &c." Were a similar law enforced, it would prevent the spoiling of much good copper, ink, and paper, as well as "grete offence," with the UNlikenesses of our illustrious, and royal personages of the present day.

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* Merry Wives of Windsor.

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The copiousness, and indeed almost infinity, of the article CHARACTER of the FIGURE, would require, if traced minutely, a greater proportion of Plates than can be allotted to it; and, after all, a selection only could be offered. Aware of this difficulty, to illustrate this LECTURE, we have had recourse to the Antique for a number of additional subjects, and from among the most famous figures extant, have selected such as either by their celebrity, or their remarkableness of CHARACTER, or their contrast with others, might most readily explain and enforce the principles previously adduced. Nevertheless we have retained our former examples of CHARACTER under less dignified forms, and forms which more commonly offer themselves in Nature.

There is less need to be diffuse on this Article, as the plates belonging to the PROPORTIONS of the FIGURE have prepared the student for the advantageous reception of these; and those illustrating the Lecture of EXPRESSION of the FIGURE, may be considered as so many instances of CHARACTER no less than of EXPRESSION.

# LIST OF PLATES

### BELONGING TO

# LECTURE IX.

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## PLATE CIII.

This plate represents variations of Character, in the proportions and form of the figure, occasioned by the changes attendant on the progressive stages of life.

Fig. 1. A CHILD; whose general aspect is shorter, plumper, and rounder, than that of any other period of life: and not only is this the general character of the figure, but of the parts also, to the very extremities.

Fig. 2. Shews the effect produced by advances toward maturity: the growth of these figures has produced a thinness, a delicacy, a prolongation of parts, which, while it partakes much of the moisture of early life, yet is greatly varied in its proportions from those of fig. 1.

Fig. 3. The youth and tenderness of No. 2. seem to be advanced in this figure to greater firmness and strength, yet without losing that freedom and lightness which characterise the activity of youth.

Fig. 4. This figure, to the most accurate and delicate proportion, unites the vigour and firmness of that mature age, which is the prime of life: health, promptitude, and whatever of boldness and alacrity may be expected, seem to be characterised in the forms of this figure.

## PLATE CIV.

Fig. 1. and 2. are two views of that celebrated figure commonly called the ANTINOUS; which is esteemed the most perfect model of grace and beauty, in the delicate manly form.

Fig. 3. and 4. are two views of the famous HERCULES of GLYCON, esteemed the most perfect model of muscular strength, and *powerful* formation.

These characters are placed together with design to impress more decidedly, by means of contrast, the peculiarities of each: each in its style is *great*; yet in Proportions and Character each is so different from the other, as well in the whole as in the parts, that it would be endless to enumerate the particulars.

Though these figures are given but on a small scale, yet their differences of conformation are very evident: the ANTINOUS has been given at large in Plates 95, &c. under the article Proportion. To estimate properly the contrast of these figures, the ANTINOUS should be conceived of as under six feet high; while the HERCULES should be estimated at upwards of seven in height, and the breadth of his members in proportion.

## PLATE CV.

Fig. 1. Partly with design to correct a general mistake which has prevailed respecting the character proper to Bacchus, we have chosen to select an instance of the form given to this deity by the ancient Artists, in which youth and beauty, and graceful and tender proportions, are chosen to form the representation of the enlivening God of Wine.

Fig. 2. A character of Silenus; which well contrasts that of Bacchus: and appears to be much nearer to the Bacchus of certain moderns. The general air, as well as form, of this figure, at once impress themselves, on the spectator's notice.

We might remark on these two characters, that the effect of wine is different, whether it be used for refreshment, or indulged in to excess. To this difference the ancient Artists have attended; and while the deity seems to be merely enlivened by the vinous beverage, the libertine shews in his form the consequences of intemperate swilling, &c. &c. on his constitution and figure.

Fig. 3. The Apollo Belvidere.

Fig. 4. Mars. These two figures shew a disposition to, and fitness for, exertion; but exertion of different kinds: lightness, grace, agility, characterise the first: strength, resistance, determination, force, characterise the second: each is proper to its office, and employment.

## PLATE CVI.

Fig. 1. Venus: the very delicate, graceful, youthful yet mature, and tender yet complete, proportions of this celebrated figure, undoubtedly entitle it to hold a distinguished place among the characters which may claim beauty—a beauty not merely human, but divine.

Fig. 2. Diana: light, agile, rapid, brisk, fit for celerity, and swiftness of motion.

Fig. 3. A water nymph; whose clear fountains yield the translucent stream, fresh, pure, and gentle: and whose double sources are hinted at by her carrying two water urns.

Fig. 4. Flora: whose dignified character unites elegance of attitude, and graceful motion, to mature and matron-like proportions.

As the characters of these figures require they should be cloathed, it is very rare to find them otherwise; their proportions, nevertheless, appear sufficiently varied; though they are thereby precluded from yielding those precise and accurate measures of the parts, &c. which we obtain from some others.

## PLATE CVII.

Fig. 1. A Faun: whose riotous mirth, raised by an undue indulgence in the juice of the grape, well expresses the effects of inebriety on the but half human character of his kind.

Fig. 2. A heavy, but grand, symbolical representation of a river god (THE NILE), whose capacious and overflowing stream imparts plenty whereever it extends: the dignity of this river, its importance, its magnitude, are well expressed by the great breadth of his proportions, and the general amplitude of his figure.

Beside the differences of these figures as to their character, the difference of their expressions and attitudes deserves notice: that of the Faun is little short of extravagance through excess of activity and exertion: that of the Nile is stately, sedate, dignified: so that these subjects (as indeed most of the others), are not less examples of *expression* than of *character*.

## PLATE CVIII.

### Fig. 1. PAN teaching APOLLO to play on his Pastoral Pipe.

A capital group; and a striking contrast. APOLLO, delicate, thin, and slender; PAN, broad and heavy, but vigorous and strong: a mixture of the goat with the human form.

### Fig. 2. A CENTAUR driven by CUPID.

The alliance of the human and bestial forms, is, certainly, beyond a liberty; it is a licentiousness: yet Art may boast, when it has succeeded, as in this instance, in giving a character of which it could have had no prototype in nature. Not only is the horse part fine, but it is united to the human part with much skill; and the character of the human part is such as perfectly well agrees with the animal.

However there may appear something noble in the external appearance of this and other compound figures, because Art has imparted that nobleness to them, yet whoever has any acquaintance with internal anatomy, will quickly discern the utter impossibility of any such mixture taking place to advantage, in nature; because, if the principal viscera were placed so as to suit one of these characters, the other must be vacant: or, if to suit both, the viscera must be double, *i. e.* complete in each.

PLATE CIX. A FIGURE from the ANTIQUE.

PLATE CX. A BOY; from a DRAWING by Mr. COSWAY.

PLATE CXI. BOY and DOG.

PLATE CXII. A DUTCH BOOR, Smoaking.

PLATE CXIII. A SOLDIER, standing, resting on his Colours.

PLATE CXIV. A DUTCH BOOR in Enjoyment.

PLATE CXV. A SOLDIER Reposing.

PLATE CXVI. SANCHO PANÇA.

This Plate exhibits that celebrated Character in four different situations: 1. Offering combat to his antagonist the Barber; wherein we remark, that how bold soever his fists may appear, the rest of his figure preserves a considerable distance, wisely placing *generalship* in securing a retreat: 2. His prowess alarmed at the oracular head: 3. Laughing at one of his Master's vagaries: 4. Endeavouring to maintain the judicial character of the Governor of Barataria.

# LECTURE X.

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## EXPRESSION OF THE FIGURE.

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Ladies and Gentlemen,

WE are arrived at the last lecture of the present series, wherein we propose to investigate some of those principles which may illustrate the expression of the figure.

This subject is extremely copious; we may indeed say expressions are infinite, and that each person has his peculiar expression: however, as this article has, like all others, its general rules and limitations, we shall endeavour, by illustrating them, to render the subject itself intelligible, within a moderate compass.

Expression always implies motion; but motion has also its laws and its peculiarities. Expression does not so much create motion as direct it—direct it to a particular purpose, and to a specific end. We shall therefore, before we proceed to expression, attend somewhat to the principles which appear to govern the motions of the human figure.

## OF MOTION AND ITS PRINCIPLES.

We will suppose, if you please, a figure standing perfectly still, resting equally on both his feet; in this attitude, each leg sustains an equal weight, impending on it from the body, and the pit between the *claviculæ* is perpendicularly over the feet; but, should the figure extend his arm, that pit quits its station; or if a leg be advanced, that pit is moved; and by every new attitude, it obtains a new situation.

When a person has extended an arm, his hand, at the extremity of that arm, acts so strongly by its weight, which (on the principle of the lever) is at that distance from the centre considerable, that, were it not counterpoised by some addition on the other side the centre, he would inevitably fall: to prevent this, by inclining his shoulder on the contrary side from the hand which is extended, a man throws to that part sufficient weight to preserve his balance. This inclination of the shoulder is chiefly seen by its effects on the hips: put a pound into the hand held out, and the motion of the body to obtain an equilibrium is very distinct, and apparent; put ten, or twenty, pounds, a violent motion ensues to decrease the *quantity* of the body on the loaded side, and to augment it on the other. On the same principle, a man ready to fall on one side, never fails to stretch out the parts of the other side.

If we suppose a figure from a state of rest inclined to walk, he will attempt it on the same plan: instead of a weight being placed in his hand, *on one* *side*, he will throw *forward* so much weight of his person as he designs his pace to be brisker, or slower; and by a constant pursuit, as it were, of his centre of gravity, he advances from place to place. In a man walking leisurely, this is hardly perceivable; but, in one running swiftly, his head and shoulders advance considerably before that foot which springs from the ground: if he run against a strong wind, in order to overcome its resistance, he protrudes his upper parts so greatly, that were it suddenly withdrawn, he would inevitably tumble forward.

That displacing the centre of gravity is the cause of motion, appears from the instances of birds, who are often seen to sail in the air without any assistance from the wind, or any exertion of their wings: now, it is evident, that if the centre of a bird's weight be more forward than the centre of his supporting wings, the progress of the bird will be forward, and descending; with greater, or less, rapidity, as the weight of the bird is thrown more, or less, forward.

The motions of figures should always shew the exertion of that degree of strength which they may rationally be supposed to employ in their respective actions; a man lifting a stick, does not exert an effort equal to another raising a beam: for a man will never be able to lift a burden, till he counterpoise it with a greater weight than itself.

A man intending to strike a violent blow, averts himself from the object of his attack, and collecting all his force, discharges it with a velocity compounded of the motion of his arm, and of the weight of the weapon with which he strikes.

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A person about to leap, bends his body to acquire a spring, then quickly extends the junctures of the thigh, knee, and feet: the body, by this extension, describes an oblique line, inclining forward, and rising upward; the motion directed forward, carrying the body in that direction; the motion intended upward, elevating it: these conjoined, describe a large arch, or semicircle, in which line a man is observed to leap.

The utmost degree of contortion to which a man in viewing his hind parts is able to attain, is, to look perpendicularly down upon his heels: and this is not performed without great difficulty, since besides a flexure of his neck, his legs are likewise to be bent, and the shoulder over which the head declines to be considerably lowered.

A man who in retiring would tear any thing out of the earth, raises the leg opposite to the arm wherewith he acts, and bends that knee: this he does, to balance himself on the leg which supports his body, for without thus bending it he could not act, neither could he retire without stretching it out. Such are some of the laws of Motion.

But, to quit these violent motions, I wish to present, in this Lecture, a few ideas on movements of a more placid and graceful kind.

I had the honour, on a former occasion, to introduce a few hints on the subject of Beauty: to investigate the principles of GRACE, which is the perfection of Beauty, I would request you to recollect, that we considered Beauty as dependent on fitness, variety, and symmetry: if the same principles be supposed to accompany motion, we shall not, I apprehend, be very distant from a just idea of Grace: since (as appears to me) that motion will be moſt elegant, which moſt eminently possesses these qualities.

A porter in carrying a load, a man in pushing, or pulling, a great weight, exerts his strength in the shortest manner possible: his actions form a number of lines, all straight; here may be the utmost degree of fitness, but in straight lines can be no variety. Posture-masters have disfigured their figures into the most extravagant attitudes; their hands and feet turned into twists, their backs where their fronts, and their heads where their heels, should be: but not an idea of Grace in any of their motions; because, symmetry was banished, and fitness was forgot.

We expect elegant movements in a well-bred dancer; let us attentively examine his principles. The minuet is reckoned one of our most graceful dances, if indeed it be not the most graceful of them all: Now, the grace of this dance arises greatly from its variety of appearance, of attitude, and of sentiment, from the gradual progress of its motions, rising, sinking, turning, without hurry or perturbation. From the minuet we select that period, in which their right hands are reciprocally offered by the dancers: were it requisite only to give the hand to the partner, a simple strait motion would be quite sufficient; and without loss of time might the Gentleman (or rather in this case the bruiser) elevate his fist to the height of his antagonist's; or, whether his hand

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accepted, was before, or behind, the line of his arm; above, or below his wrist, would be of small consideration in the opinion of a clown. What then imparts elegance to this motion? Its progress seems to be as follows: First, The palm of the hand, from being turned inward to the person, begins to be turned outward; this motion is felt by the wrist, which communicates it to the arm, and the arm to the shoulder; the line of motion being gently lengthened from part to part: that it may not be sudden, it is gradual; it is uninterrupted and constant, lest its design should appear defeated; and from a very simple beginning, the movement becomes more complex, and lively, as it approaches its termination, and as the arm rises.

Here we have,—*fitness*, as the motion is adapted to the member;—*variety*, as what follows advances on what preceded, till a climax terminates the whole;—and *uniformity*, or *symmetry*, as the motion through all its varieties is but one action.

CONTRAST is likewise a principal ingredient in grace. A spectator is entertained by variety in the lines of a figure; for example, if the eyes look one way, the breast may be gently turned another: I say gently, for were this motion violent, it would produce not contrast, but contorsion.

As the instance already selected from the minuet, offers this principle very clearly, we shall continue our remarks on it.

The approach of a dancer at presenting right hands in a minuet, is not directly to meet the partner, but, while the figure describes a circular course in advancing, the head turns toward the partner at an easy angle from the line of progress: which contrast imparts that very genteel, and graceful, air, which is remarkable in this movement. In effect, therefore, one sentiment, aptly expressed by variety of motion, uniting harmoniously to form a whole; may be considered, not improperly, as a definition of grace, on this part of our subject.

That length of lines contributes to grace, appears from the movements of those animals whose limbs are longest. The noble motions of a Horse arise chiefly from this principle, because, the share of weight distributed to each member being a mere trifle, he moves with more liberty, spirit, ease, and flexibility, than a Hog, for instance, whose uncouth and clumsy movements correspond to the shortness of his limbs. The same advantage has a greyhound over a cur.

In the majestic Swan, the various turns of his neck are eminently graceful; because its movements are not sudden but moderate: a Goose may vainly attempt imitation; when she stoops at entering a barn, she may shew much discretion, prudence, and sagacity, but no grace: nor when a Duck entreats admission to a farm yard, is the incessant rising and falling of her neck, a nearer approach to elegant movement, than her garrulity is to elegant discourse.

But we must remember, that the same graces, and movements, are not equally becoming to figures of every kind: the facility of graceful motion we have been describing, by no means agrees with the vulgar manners of boors, nor with that rigidity, or with those infirmities, to which age is subject. Character controuls motion; as we shall see it also controuls expression; in what manner, or to what degree, we shall now proceed to enquire.

## OF THE EXPRESSION OF THE FIGURE.

WHEN reading accounts of discoveries in distant countries, I have sometimes almost wished myself a spectator of the various emotions shown by the parties on such occasions; for, being ignorant of each other's language, they were in effect mutes. I observe, that signs which related to necessary, and natural, wants, were quickly understood on both sides: nor were the principles of commerce and barter long 'ere they were settled. Such scenes must be moving pictures, where each party expresses naturally, and without ambiguity, their sentiments by their actions. Sometimes we read in history of barbarous people compassionating the entreaties of their captives, even when leading them to death: sometimes applauding their heroism, when boldly meeting it: and this, without knowing a word of the sufferers' language, but sympathizing with their expression, whether pathetic, or firm.

In fact, it is not always language that produces the greatest effect on the party designed to be moved: there is often more eloquence in a flood of tears, than in the best spoken oration: and in a silent attitude, than in a tempest of words. So MILTON thought, who, like his ADAM, underwent the trial.

> EVE with tears that ceas'd not flowing,
> And tresses all disorder'd at his feet

Fell humble, and embracing them, besought
His peace——
————her lowly plight
Immovable till peace obtain'd from fault
Acknowledg'd and deplor'd, in Adam wrought
Commiseration; soon his heart relented
Towards her, so late his life and sole delight,
Now at his feet submissive in distress——

Indeed we often hear it said—it was not so much the words, as the *manner* of speaking them, that gave offence, or satisfaction; which 'manner of speaking,' be it remembered, is an important mode of expression: if not rather the very essence of expression.

There is a difference between gesticulation and expression, the former being an acquired and constant habit; the latter the offspring of mental sensibility, arising naturally from the present occasion; consequently, as occasion varies expression varies with it: it is not a set of motions which constitutes expression; but, a genuine sensation of the mind, producing a correspondent action of the person, thereby manifesting the internal sentiment.

All the members of the person contribute to Expression. Elevation of the HEAD expresses haughtiness, contempt, disdain; depression of the head expresses modesty, humility, respect; when the head is borne evenly it indicates firmness; when it sinks on one side, it manifests dejection.

The HANDS are very considerable agents in this business: by them we applaud, we request, we refuse, or we command. In requesting, we hold our hands level, the palm upward, as if to receive what we desire; in refusing, we turn the palm of the hand downward, thereby rendering it impossible the object intended to be refused should be put into it; in commanding, we point to what we order to be done; and sometimes the finger held up is sufficiently authoritative.

The FEET, as the means of advancing, and of retreating, chiefly (if not altogether), in those motions, contribute to expression. We approach what we desire; we recoil from what we dislike. The feet seldom contradict the motions of the hands, but, sometimes they stand, as it were, ready for escape, from dangers whereinto the hands will venture.

I proceed to notice the principal passions, retaining the order in which we formerly treated them.

ADMIRATION, which produces but little change in the features of the countenance, has little greater effect on the figure: it may be represented, by a person standing erect, his hands opened, and lifted up, his arms approaching his body: standing pretty firmly on his feet.

In ESTEEM the body will be somewhat bent; the shoulders rather elevated, though but little; the arms folded, and close to the body: the hands opened, and not very distant from each other; the knees bent.

VENERATION increases the flexure of the body, and of the knees; the hands and arms almost unite; all parts of the body mark profound respect. When connected with objects of faith, VENERATION augments the strength of the foregoing motions; crosses the hands on the breast, lowers the head, and bends the body to prostration.

RAPTURE, or Ecstacy, may be expressed, by the body thrown backward, the arms elevated, the hands open, the whole action joyful, animated, transported.

The effect of SCORN is to draw back the body, to extend the arms, as repulsing the object of aversion; the legs, and indeed the whole figure, stiff.

HORROR excites violent movements; the body strongly withdraws from the object which causes this passion, the hands will be quite open, the fingers spread, the arms kept tight to the body; the legs endeavouring to escape.

AFFRIGHT has very vigorous expression; the arms thrown forward seem to stiffen; the legs fly with the utmost rapidity; and every part of the body shrinks from its dreaded adversary.

LOVE creates no great emotion in the figure; the presence of its object animates its motions, but not very strongly, nor after any fixed manner, in modest affection; which has much respect in its expression.

DESIRE extends the arms toward its object, and inclines the whole body on that side: all parts of the figure appear agitated and restless.

Of HOPE we have observed that its motions are contradictory, and fluctuating; wavering between doubt and expectation.

JOY is a first step to rapture; its motions are more, or less, moderate; according to character and occasion.

FEAR has many motions in common with AFFRIGHT, when it arises from a dread of losing somewhat we value, or when we await an approaching calamity: this passion shrugs the shoulders, keeps tight the arms, and hands, to the body; the other parts are bent, as it were, collected together, and shivering.

JEALOUSY has an invincible curiosity to watch its object; the head, and upper part of the body, will protrude themselves, in hopes of escaping notice by means of the feet, which stand ready for retreat.

The agitations of ANGER are excessive and outrageous; the muscles swelled, highly inflated, and distinct, the veins prominent, and the whole figure in fury: anger would generally destroy its object if possible, and may be represented as so employed.

What shall we say of DESPAIR? It is a dæmoniacal madness, a possession, an unutterable suffering, a principal ingredient of hell: in its motions closely allied to anger.

We have mentioned each passion apart, that we might attain a clearer, and more forcible, conception of its motions; it is, however, very seldom that any passion is free from some mixture with others: their combinations may easily be gathered from what has been suggested on this subject in relation to the countenance: but perhaps some instance, by way of illustration, may be more satisfactory.

Here I might introduce, as an example, a description of a battle, in which LEONARDO DA VINCI has indulged himself; but, to avoid the melancholy of such subjects, I rather choose to invite your thoughts to a more cheerful event. It is not indeed a very cheerful opening of the story, to say, a young man in the vigour of life, happy in respectable connections abroad, in affectionate relatives at home, was by a fatal distemper numbered among the silent dead: yet, when I acquaint you his name was—LAZARUS, your thoughts anticipate the joyful occurrence, whose EXPRESSIONS I mean to investigate.

Let us previously recollect the Characters necessary to introduce in this composition, that we may more accurately adapt to each the requisite and appropriate expression.

In the first place, it would be proper to give as much authority, and dignity, to the attitude and figure of CHRIST, as is consistent with the humility of the Son of Man, who not many minutes before had strongly manifested himself "the acquaintance of grief."

LAZARUS we may consider as a man of vigorous years, perhaps about thirty.

His sister MARTHA, a woman of a warm disposition; noble, generous, free, hospitable, yet careful.

MARY, of a more mild and placid temper; and perhaps much the youngest of the family. Both the sisters women of fortune, and educated accordingly:—perhaps, even of elegant manners.

Next, we place the APOSTLES, on whose characters I shall not enlarge: but suppose PETER, as a warm man, to be a forward figure among them; and JOHN, as being "the disciple whom JESUS loved," to be near his divine Master, on this occasion.

Beside these, were, (1.) FRIENDS who accompanied MARTHA and MARY; (2.) PHARISEES, or considerable men; (3.) OTHERS drawn together by the appearance of JESUS and his retinue; (4.) SERVANTS of various sorts, &c.

This last groupe of characters may be divided with regard to expression, into (1.) those who were believers already; (2.) those converted on this occasion; (3.) those who remained unconverted.

This subject is so replete with expression, that some slight anachronisms are inevitable; but, I apprehend even great masters have not exerted themselves to avoid all they might. It is usual to select that point of time when JESUS is speaking, " Lazarus come forth!" I confess it is honorable to the speaker; but what is the situation of the spectators? *Universal* expectation.

Take, therefore, the occurrences somewhat lower: suppose we imagine that at speaking the words, " Loose him and let him go," our Lord might, condescendingly, take hold of LAZARUS by the hand; this idea gains two advantages; one an opportunity of expressing the love of JESUS to LAZARUS; another that we can introduce LAZARUS into a principal situation, in a natural and easy manner; and without those contrivances of looking into the tomb, or placing the tomb awry, &c. which disfigure some capital pictures.

The attitude of JESUS should be affectionate, yet noble; and requires no great exertion of his limbs, but an easy sway of his figure.

When I mentioned slight anachronisms, I chiefly referred to the necessity we are under of shewing that Lazarus *had been dead*. It is to be supposed, in fact, that his restored life was in perfect and vigorous health; yet it is pardonable in a picture, if some part of him, such as his feet, or legs, retain somewhat of the corpse.

Whatever might be the sensations of LAZARUS on his return to his earthly tabernacle, we need not doubt but his countenance expressed—surprise at his situation—love to his master—to his sisters,—and to his friends.

MARTHA, as the elder sister, may be supposed to have paid her addresses of adoration to our Lord, and to be by this time ready to assist her returning brother: while MARY continues prostrate in the act of worship. PETER as a curious, and hasty person, may be stretching out his neck with an inquisitive air: and JOHN's placidity may appear yielding to surprise, love, and veneration.

Those who were already believers may shew—joy and wonder; those converted—astonishment and respect; those hardened—chagrin and mortification.

This brief analysis may suffice to explain the nature of EXPRESSION, which should always be (I.) CHARACTERISTIC; *i. e.* such movements, all things considered, as *that* person may be supposed to exert upon the occasion related; a king may not skip like an harlequin; nor an apostle forsake his decorum. (II.) NATURAL; some postures indeed may occasionally be noticed in real life, which would not be approved in a picture; but that expression should be natural is so obvious a principle, that I might almost call it trite. (III.) SELECT, by which I mean—not such as may be seen every day, applied to extraordinary occurrences; but chosen with propriety,

priety, and introduced with discretion. (IV.) FORCIBLE: every spectator of an artist's performance will not enter so readily into his ideas as himself, or as another artist; therefore, to render it striking, the passions should be expressed with clearness, and vigour; but with the utmost caution against extravagance; lest though the ignorant should then applaud, the well-informed should condemn.

It has long been a precept among artists, that expression must be studied from nature; its graces are transient and momentary: no model can imitate them; it is absurdity to suppose it. Models may frequently afford proportion, sometimes character, but never just and elegant expression.

There is yet another kind of expression which I have called *by accompaniment*, such is the spider's web over the poor's box; which demonstrates the remote period when charity dropped its benefaction: such is the inscription to the honour of the emperor TIBERIUS, on the Roman standard, borne at the crucifixion of Christ, which marks the time of that prince to be the time when he suffered.

Ideal figures likewise serve to express many circumstances not otherwise to be introduced. But as these form no part of our present subject, we refer them to some future opportunity.

There is however one kind of EXPRESSION which it would ill become me to omit; and that is, an expression of the sense I entertain of the honour done me by your candid and cheerful attention: It becomes me, I say, LADIES and GENTLEMEN, to acknowledge that I feel your respectful attention during the course of these Lectures, with great satisfaction; and I flatter myself I may regard it as evidence that the precepts they contain will be useful, as I hope they have been entertaining, to my auditory.

END OF THE FIRST SERIES OF LECTURES.

# LIST OF PLATES

BELONGING TO

# LECTURE X.

. . . . . .

## PLATE CXVII. MOTION.

*From an original drawing by* Poussin.

THIS figure stands almost equally poised on both his feet; yet not so equally, but, that the principal weight of his body is supported by one leg chiefly. This attitude, therefore, has no need to seek by any exertion, or extension of its members, to preserve a balance; as the distribution of weight is pretty near equal on each side of the central line of the figure; so that this figure is altogether at rest.

## PLATE CXVIII. MOTION.

*From an original drawing by* Poussin.

This figure rests the weight of his body almost entirely on one leg, the other serving merely as an assistant in preserving his balance. It appears, that so much of his weight as is thrown on one side at his haunches, is counterpoised on the other side, by the projection of his shoulders to that side, and by the extension of his arms. This figure, therefore, has some difficulty to preserve itself at rest, and might easily be put in motion.

## PLATE CXIX. MOTION.

*From an original drawing by* POUSSIN.

This figure appears to design an easy, calm, progress; he is little agitated, little impelled, he throws forward one arm, and retires the opposite leg; and, by an easy sway of his body, he gently pursues his progress from place to place.

## PLATE CXX. MOTION.

*From an original drawing by* POUSSIN.

This figure extends his arms much further than the former; and, in consequence, he throws his opposite shoulder much further back, counterpoising thereby the weight which the hand, by being extended, occasions to its own side; as the legs are not proportionately extended, the upper part of the figure appears to be the chief seat of Motion.

## PLATE CXXI. MOTION.

*From an original drawing by* POUSSIN.

This figure is an example of a less vehement motion in his design to throw the stone which he grasps; and which, by his moderate preparation for it, he seems not to mean to throw far, or with any great rapidity, toward the object at which he aims.

## PLATE CXXII. MOTION.

*From an original drawing by* POUSSIN.

This figure shows a more vehement action: he withdraws himself strongly from the object at which he is about to hurl his dart, in order that he may exert the whole of his powers in performance of that one action; and that he may interest, as it were, every muscle of his body in the execution of his design.

## PLATE CXXIII. MOTION.

*From an original drawing by* Poussin.

Two men endeavouring to overthrow a pillar, A. by pushing it from him with all his might, B. by pulling to him. In A. the principal muscles appear swelled, compressed, shortened, and thicker than usual; in B. they are more lengthened, thinner, and lank, than ordinary.

It appears from these figures, that both motions, take as it were their origin from the legs, and feet; they acting upon that resisting medium (the ground) without which no effort could be made: but, whereas the head of A. is considerably before the supporting line of his foot, (and the further it is projected the greater weight he throws towards his object,) B. endeavours to withdraw his head *behind* the support of his foot. As A. succeeds in his efforts to push the object from him, his parts advance nearer to a straight line, while B. becomes more bent as the object yields to his strength; the different curvature of the backs and reins in these figures indicate their approach to these states. If B. was drawing somewhat from below him, (out of the earth for instance) he would bend himeslf forward to grasp it, and become straighter as he succeeded: or if A. was pushing an object above him, he would bend in his efforts, and straighten himself as he accomplished his purpose.

## PLATE CXXIV. MOTION.

*From an original drawing by* Poussin.

This figure, as an instance of carrying a load, shews—that so much of its own weight is thrown on one side of the central line of its bearing, as compensates the weight of that portion of the load it sustains, which is beyond the other side of that line; thereby maintaining an equilibrium, so far as is consistent with the necessary projection of weight for the purpose of its motion.

## PLATE CXXV.

### No. 1. SURPRISE.

THIS figure is evidently startled at somewhat which has recently taken place before his eyes, and which has excited his apprehension: but which is not so close to him as to encrease that apprehension into concern for his personal safety. This subject is an idea of PHARAOH beholding the rods changed into serpents.

### No. 2. FEAR.

This figure is so overcome by fear of mishap, that he hardly dare move a foot; his hands *feel* their way, and his whole attitude shews great tremor and apprehension. This is the figure of ELYMAS the Sorcerer struck blind; by RAFAELLE.

N. B. Sir James Thornhill has greatly augmented the danger of Elymas, in his picture of the same subject, by placing him on steps down which he is proceeding.

### No 3. AFFRIGHT.

This figure is alarmed at somewhat very close to him; somewhat from which he draws back, shrinks, recoils.—This is an idea of MOSES on the Mount Horeb, when his rod was changed into a serpent.

### No. 4. TERROR.

This is CAIN flying from the judgment pronounced upon him. He seems to strain every nerve to avoid the vindictive sentence; yet, by his looking back toward the object of his terror, he plainly shews that the dread of it continually fills his conscious mind.

## PLATE CXXVI.

### No. 1. RESIGNATION.

This figure seems in all humility to acquiesce in what is told her; and laying her hands on her bosom, to express "so let it be;" her kneeling, &c. contributes to this expression. This is an idea of the Virgin MARY, at the time of the Annunciation.

### No. 2. REVERENCE.

This figure shews more confidence than the former; it kneels, but on one knee only, and, by directing its looks upward, it seems, even while doing homage, to be also in a kind of conversation with the object which it reverences. This is an idea of MANOAH at the instant of the Angel's departure from him.

### No. 3. DESPONDENCY.

Very different from the former, this figure seems lost in melancholy, and scarce exerts a single member of its person, to receive with any pleasure the news communicated to it: languid, enfeebled, despondent, it hears, but hearing, scarce attends, scarce believes. This is an idea of HAGAR in the wilderness; the Angel just appearing to her.

### No. 4. GRIEF.

Exclamation, boundless suffering, bitterness, which will have vent, characterizes this figure; which, reduced to despair, by the murder of its offspring, appeals to heaven, and fills both heaven and earth with lamentation. This is an idea of a MOTHER whose infant has been just slaughtered at Bethlehem.

## PLATE CXXVII.

### No. 1. AUTHORITY.

This figure seems to be directing, by means of his rod, somewhat to obey his commands; he exerts no very strong emotion of his own; but seems to expect what shall certainly follow. This is an idea of MOSES commanding by means of his rod.

### No. 2. ANGER.

This figure shews transports of rage; he rises, he lifts his staff, he is agitated, he trembles, as it were, with anger; and, while he seems to speak, he seems too much empassioned to hear a reply. This is an idea of BALAAM.

### No. 3. INTERCESSION.

Great activity to prevent a dreaded evil characterizes this figure; she throws herself between the uplifted sword and the child about to suffer by it; she remonstrates, she exclaims, she loses not an instant in preventing what she fears. This is an idea of the MOTHER HARLOT in Solomon's judgment.

### No. 4. CRUELTY.

This figure seems to be loaded, but not, in its own opinion, overloaded, with children for slaughter; some it has slain, others it carries off to slay, and, unable to hold more in its arms, it carries one, by means of its linen, in its mouth. A fit representation of a GUARD sent to slaughter the Innocents at Bethlehem.

## PLATE CXXVIII.

### No. 1. SUSPENCE.

Whether it may believe what it sees, whether its duty be to worship, seems the enquiry of this figure; his hands clasped, his one knee bent, his head looking up, all mark the greatness of those sensations which he feels; and mark also the uncertainty of those convictions, which as yet are rather nascent, than mature. This is an idea of a figure beholding the Ascension.

### No. 2. EXULTATION.

Kneeling with very different emotions is this figure of JONAH; he pours out his grateful effusions, plainly, audibly, forcibly, yet reverently; and, while his thanksgivings ascend to heaven, no hesitation on his part retards their ascent.

### No. 3. AVERSION.

This group shews how the same passion may be represented in various attitudes, and by various actions: while one is pushing off the subject of aversion, others are turning away from it, or lifting up their hands against it, or by other means shewing they no less desire its absence than he does who is most active in expelling it from before him. Of such variety are all expressions capable.

These subjects are all taken from Bible history, that the nature of their expression may be more familiar to the Student.

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END OF VOL. I.

# A
# COMPENDIUM
OF
# COLORS,
AND OTHER
# MATERIALS
USED IN THE
# ARTS
DEPENDANT ON
# DESIGN,
WITH
*REMARKS ON THEIR NATURE AND USES:*

INCLUDING THE METHOD OF
DRAWING
In CHALK, CRAYONS, &c.

OF
*PAINTING*
In WATER COLORS, CRAYONS, &c.

OF
*ENGRAVING*
In STROKES, CHALKS, MEZZOTINTO, AQUATINTA, &c.

*Of MODELLING, and of SCULPTURE, &c. &c.*

# INTRODUCTION.

THE utility of the following COMPENDIUM, will appear to all who consider the variety of substances which are employed in composing many colors, and other materials, used in the Arts. It is to be regretted that some professors are not more intimately acquainted with this part of science; but, to the student, for whose service this compilation is chiefly intended, such information is evidently of great advantage.

That an injudicious mixture of pigments, contrary in their natures and properties, produces very disagreeable consequences is universally agreed; as indeed might naturally be expected from the various and dissimilar origins of the ingredients, of which some are productions of the animal, others of the vegetable kingdom; fossils afford some, and minerals others. Beside this, they have undergone various modes of preparation for use; for some cannot be used without calcination, others will not bear the fire; some constantly retain their proper hues, others, though brilliant at first, after a while become totally corrupted, and by their corruption they injure, or destroy, their companions, which might otherwise have stood well. It appears evident, therefore, that, a knowledge of the origin of any pigment, may conduce much to a beneficial association of it with others.

No doubt, many other substances beside those in common use, might be of great service, if their pro perties were more satisfactorily understood, or if better methods of managing them were discovered, which can only be the result of experiment. Moreover, we know, that foreign countries afford a variety of materials different from our own, which are used by the artists of those countries ; it would be a desirable acquisition, as well to the study of natural history in general, as to the arts, if gentlemen who have opportunity, would inform themselves on such subjects ; of their origin, their manner of treatment, and their mode of preparation for use ; of their natures and their effects ; and, if they could import samples for examination by our own artists, not only those artists, but, perhaps by some happy discovery, the nation, might become obliged to their laudable endeavours.

Our own kingdom and its dependencies afford a variety of substances which we now receive from foreigners : it would be well worth while to examine our native productions with reference to their further utility ; not to mention the pleasure arising from investigation of every part of the works of nature. It is submitted to gentlemen, and to artists, who reside in various parts of the kingdom, that such intelligence of British productions might be very acceptable to artists in other parts of the kingdom, whose situation detains them from such knowledge : and in particular, it is submitted to artists, that, as the perfection of art is only to be attained by liberal communication of improvements which occur to individuals ; by such generous behaviour, and by such only, can the arts attain that excellence which is the earnest desire of every genuine artist.

Such information would be valuable to the public, since thereby many expensive materials might be superseded, by others equally serviceable, at a much less price; or improvements on those now disregarded, might render them objects of greater attention ; whereby, not unfrequently, our manufactures, as well as the arts, might derive great advantage. In some degree, on this principle, a few articles not in general use are admitted into this collection ; for, though their own services are but small, they may afford hints to aid the discovery of others more valuable ; it has indeed been our endeavour, to insert chiefly those articles whose utility may be depended on ; for it seems injudicious to burden this part of science, especially in a work like the present, with numerous *recipes*, even while we have endeavoured that nothing really worthy our reader's attention should be omitted.

The intent of this work is not to instruct masters, but learners ; nor can much novelty be expected on the subject, though there are many original *recipes* ; but let it come from what quarter it may, INFORMATION is equally useful, and valuable, to the student.

To close these remarks :—it should be recollected, that some colors, &c. are dangerous to health, without due circumspection in preparation, and management ; to guard against accidents from such is very desirable, and is sufficient to prove the utility of the present work, in which somewhat of their natures and effects are explained.

*** *The prices marked to many of the following articles, may serve as useful hints in purchasing Colors, &c. but must be taken with some liberty, according to the quality of the article, and of the state of the wholesale market, &c.*

*Those under a shilling per pound are marked* cheap.

A

# COMPENDIUM

OF

# *COLORS, &c.*

ACACIA: The flowers afford that bright yellow which bears washing in the Chinese silks, &c. and is used by them in painting on paper. The flowers are gathered before they are fully open, then put into a clean earthen vessel, and kept over a great heat (stirring them continually) till they become dryish and yellow. Then to half a pound of flowers, they add three spoonfuls of fair water, or just enough to hold them incorporated. This they boil, till the water has extracted the juice from the flowers; then strain it. To the liquor they add half an ounce of allum, and one ounce of calcined oyster-shell pulverised.

It is not impossible that Great Britain (or very probably some of its tropical dependencies) may produce a vegetable similar in its nature, or that may serve the same purpose, at a small expence. The process to obtain its color, would most likely be much the same.

ANACARDIUM, or Cashew-nut: From the sweetish liquor contained in its shells, the Indians extract an oil, said to preserve wood from putrefaction, and to render black colors lasting.

ACHIOTE, called by the French Roucou, by the Dutch Orleane, is the flower, or seed, of a tree which grows chiefly in very hot countries. The grains of *Achiote*, are soaked in an earthen vessel, and repeatedly washed in warm waters, till they have discharged their vermillion colour, the sediment is formed into cakes, &c. which when pure is much valued. Some boil the grains to obtain a greater consistence of colour.

Some use it to compose Carmine, but it gives too much of an orange cast. It is used to dye wax vermillion colour.

ALLUM, a mineral chrystalizable salt, of an austere taste; dissolves in cold water, but much better in boiling water. It is obtained abroad from sundry kinds of earth: in England from a whitish bluish kind of stone called Irish slate. It is a principal ingredient in dying and colouring. Its styptic astringent quality binds the finer parts of the colors together, and prevents their exhaling. Hence it preserves paper impregnated with a solution of it, from sinking when wrote upon.

Allum Water is made by dissolving four ounces of allum, in a pint of boiling water: filtre it through brown paper.

Rock Allum, or Roche Allum, is prepared from pyritous stones, cut from quarries, and is distinguished from the common allum extracted from earth, &c.

Purified Allum, is prepared by dissolving it in hot rain water, and evaporating it, till it shoots again into chrystals.

Roman Allum, is of a red color, not superficially but throughout; by breaking it, it may be distinguished from counterfeits dyed red.

*Price 4d. per lb.* Rock Allum 1*s. per lb.*

AQUA-FORTIS, is a corrosive liquor, prepared from nitre and vitriol; it dissolves all metals except gold. It is made by distilling purified nitre, with calcined vitriol, or rectified oil of vitriol, in a strong heat: The vapour, which rises in blood-red fumes, is the *Aqua-fortis.*

If to the liquor thus procured, be added sea-salt, or sal-ammoniac one-fourth of its weight, it becomes Aqua-regia, and ceases to dissolve silver, but will now dissolve gold.

The chief use of *Aqua-fortis* in the arts, is in facilitating the progress of Etching. Being poured of a proper strength on the copper-plate previously prepared, it corrodes the lines drawn through the ground, or varnish, on the copper. *See Etching.*

*Aqua-fortis* as sold in the shops, requires no very considerable addition of water, to decrease its strength; but smoking Spirit of Nitre, which is the strongest kind of *Aqua-fortis*, must be reduced to a proper strength for use, by the mixture of four times, or at least three times, its quantity of water.

The temperature of the weather, has a great effect on its operation.

*Price about 4s. 6d. per pound weight.*

ARCHILL, is a white moss, which grows on the rocks in the Archipelago, the Canary Islands, and Cape de Verd Islands; it is said by LINNÆUS, to be found on the western coast of England. Prepared *Archill* will yield a violet color to water, which stains marble deeply, and renders it more brittle.

LINNÆUS thinks many common mosses might yield colors; at least, the experiment on the most promising is worth making.

ARSENIC, native, is called ORPIMENT. It is of a yellow, or orange, color. Though always yellow, its color admits of different shades and mixtures, golden, reddish, or greenish.

*The fatal effects which may by accident arise from this substance, will justify our forbidding its admission into the collection of colors, of our young friends.*

ASPHALTUM, is a solid, brittle, black, inflammable, bituminous, substance, resembling pitch.

It is chiefly found swimming on the surface of the *Lacus Asphaltites*, or Dead Sea, where anciently stood the cities of Sodom, &c. being thrown to the surface of the water, it there swims like other fat bodies, and gradually is condensed by the heat of the sun and its own salt. It burns with great vehemence, in which it resembles naphtha; but it is firmer in consistence. Genuine *Asphaltum* has no smell, is not acted on by water, by aqua-fortis, or by olive oil. It is a principal ingredient in etching ground: and is used in oil painting, but must not be too much trusted to; it gives the appearance of age to pictures, &c. *Price 6d. to 1s. per ounce.*

Asphaltum is excellent in the shadows of flesh, draperies, fore-grounds, &c. and particularly in scumbling, but when used alone it is apt to turn black; it is therefore necessary to mix it with lake, or blue, or terra de Sienna, any of which colors mix well with it, and effectually prevent its changing. This color being now much in use, perhaps too much, we give the following receipt for making it.

### *Receipt for making Asphaltum.*

Put two ounces of balsamo de capivi, into a peal, or pipkin, over a slow fire until it boils, then put in one ounce of *asphaltum*, and as much oil of turpentine as will make it liquid; care must be taken to prevent its taking fire. This receipt, with the method of using the *asphaltum*, was communicated by Mr. Mengs, and is used with success.

*N. B.* After glazing, it will be proper to put the picture in the sun, in order to hasten the drying of it.

### *Another Method of preparing Asphaltum.*

Melt two ounces of oleo d'Abezzo, or Venice turpentine, over a slow fire in a glazed vessel, then add one ounce of *asphaltum* a little bruised; when melted, thin it properly with oil of turpentine.

*N. B.* When you add the turpentine, take it from the fire.

The best method of preparing *asphaltum* is to melt it over a slow fire in the clearest balsamo de capivi, observing it continually until it is quite melted: and never to use it before the picture is very dry, then rub the part which you design to glaze with a little of Mengs' varnish, which must also be dry before you attempt to glaze it; mix the *asphaltum* with a little oil of poppy, to prevent its being too sticky in glazing. This is the best method of preparing and using *asphaltum*, for which we are obliged to Mr. West.

AVIGNON-BERRY, called also FRENCH-BERRY, and YELLOW-BERRY, is the fruit of a shrub, growing plentifully in the neighbourhood of Avignon, and elsewhere, in the south of France.

The berry is somewhat less than a pea; its color is green approaching to yellow, its taste is astringent. Dyers make a yellow of it. A tincture for wash colors is thus extracted:

Put a pound of berries to a gallon of water, with half an ounce of allum: boil them in a pewter, or earthen, vessel; filter them, and evaporate the fluid. Or more simply: into a small earthen teapot, or other convenient vehicle, put a small quantity of berries, pour on them boiling water, and let them stand by the fire-side till the tincture is strong enough; add allum in proportion. When meant to be kept, some add a small quantity of spirits of wine. The tincture may be drawn very deep.

*Price 2d. per ounce.*

BICE, is a blue color, prepared from the *lapis armenus*, formerly brought from Armenia; but now from the silver mines of Germany.

It bears the best body of all bright blues, used in common; but is in its color the palest. It requires good grinding to prepare it for use, being inclined to be sandy, and should be well washed. It works indifferently well. GREEN BICE, is made by adding orpiment to the *Blue Bice.*

*Price* 1*s. per ounce.*

BISTRE, is composed of the most glossy, and highly burned soot, finely pulverized, and sifted, then baked with a little gum water, and made into cakes. The best is prepared from the soot of dry beech wood, by grinding it with urine, or with water, into a smooth paste; then diluting it with more water: after the grosser sediment is settled, pour off the liquor, and let the finer particles, which are the *bistre*, sink to the bottom. The best is of a warm, deep, transparent brown, when moistened with water.

This color may be used in the same manner as Indian ink, and is warmer in its appearance.

*Price* 6*d. to* 1*s.* 6*d. per lb.*

## BLACKS.

BLUE BLACK, is the coal of burnt vegetables; the best is said to be procured from vine-stalks, and tendrils. *Price* 8*d. to* 1*s.* 6*d. per ounce.* Kept in the color-shops in bladders ground in oil, at 3*d.* each.

LAMP-BLACK, originally perhaps the soot collected from lamps, is, generally, prepared by melting rosin, or pitch, in iron vessels; then setting it on fire under a proper receptacle for the smoke; which is the *lamp-black.* It is brought chiefly from

Sweden and Norway, where it is frequently obtained from the refuse of the tree, left in preparing rosin, or pitch. It is the basis of the ink used by letter-press printers. The black takes fire very readily; the best method of extinguishing it, is by linen, hay, or straw, wetted; water alone will not succeed. This color is not much in request for oil pictures, as it requires *forcing* to make it dry.

Ivory-black, is made of ivory burnt, or charred, between two crucibles well luted; being thus rendered perfectly black, and in scales, it is ground and made into cakes, &c.

The goodness of *ivory-black*, may be known by the fulness of its color, free from any blue cast; and by its fineness. A little white sugar-candy prevents this color, when used in water (and others), from cracking.

It is used in painting in oil: but is commonly rejected from use in water, Indian Ink answering much better.

*Price* 1*s*. 6*d*. *per lb*. *Bladders* 3*d*. *each*.

Horn-black, is inferior to ivory-black; it is made of bones burnt.

German, or Frankfort, Black, is made of the lees of wine burnt, and washed; and afterwards ground in mills on purpose, with ivory, or with peach stones, burnt. It is a principal ingredient in the ink used by rolling-press printers. The French is superior to the German. To try its goodness, it is put into the mouth; if free from grit, and of a deep black, it is good.

**EARTH BLACK,** is a kind of coal which well pulverised, is used in *fresco.*

*Burnt paper,* ground finely, is said to make a good black.

*Peach stones* burnt, make a very fine black of a bluish cast, much used in France. *Cherry stones* may be substituted.

**INDIAN-INK** is an admirable composition, not fluid like our writing inks, but solid like our mineral colors, though much lighter. It is made in all figures, but the most usual is rectangular, about a quarter of an inch thick. Sometimes the sticks are gilt with various devices.

To use this ink, there must be a little hollow marble (to be had at any color-shop) or other stone, with water in it, on which the stick of ink must be rubbed, till the water becomes of a sufficient blackness. A Dutch tile, or piece of ivory, or other neat substance, may serve as a substitute. It makes a very black shining ink ; and though apt to sink when the paper is thin, yet it never runs or spreads ; so that the lines drawn with it are always smooth, and evenly terminated, how large soever they be. It is of great use in designing, because its tone of color may be augmented or diminished at pleasure. It is imitated by mixing lamp-black, prepared from linseed oil (by hanging a large copper pan over the flame of a lamp to receive its smoke) with as much melted glue as is requisite to form it into cakes ; these cakes, when dry, answer well enough in regard both to color, and to freedom and smoothness of working. Ivory black and other charcoal blacks, levigated very fine, have the same effect with lamp-black.

It is not easy to distinguish the best Indian-ink from the inferior; the usual manner is by rubbing the stick on the back of the hand, or any other place previously wetted; but, frequently the sticks are coated with a fine sort, and the part within is worthless. The makers generally scent the best ink with the best musk.

In using Indian-ink it should always be remembered, that a light color may be darkened by additional washing; but that which is too deep cannot be lightened; the safest and best way is, to proceed gradually from a weak tint, to a stronger, till the various parts obtain the force intended.

*Price, per stick, from 6d. to 5s.*

## BLUES.

Bice. *See Bice.*

Blue Ashes, *Cendres bleu,* corruptly *Sanders blue*; are used in water colors; some are very lively: but in oil they become dull. They are found among copper mines; water only is used in levigating them, to reduce them to a fine powder. This blue ought to be used in works to be seen by candle light (as scene painting) for though mixed with much white, it retains its beauty.

There is nothing to be found in the shops under this name but common *verditer,* or some species of it.

Blue, Prussian, is a modern invention, considerably in use among painters, though inferior to ultramarine blue. It was discovered by accident, about the beginning of this century. A chemist of Berlin, having successively thrown upon the ground several liquors from his laboratory, was surprised to see it suddenly stained with a most beautiful color. Recollecting the liquors he had thrown on each other, he made a similar mixture in a vessel, and produced the same color. He did not publish his process, but prepared and sold his *blue*, which was substituted for ultramarine. The account of it was first published in the Berlin Memoirs, 1710; but without a description of its process.

In a paper of Dr. Woodward's, communicated to the Royal Society, 1724, there is given a short way of making *Prussian Blue*, which was found to answer perfectly well; and occasioned several experiments, whereby was discovered the nature of the substances used in that preparation.

The method was this; Four ounces of bullock's blood dried, and four ounces of salt of tartar, prepared from four ounces of crude tartar, and as much nitre, were calcined together; two hours after which, a black spungy substance remained in the crucible, weighing four ounces; a solution of which, being made in boiling water, and afterwards filtered, left a remainder which, when dried, weighed nine drams. An ounce of English vitriol was dissolved in six ounces of rain water; and eight ounces of crude allum was also dissolved in two quarts of water: These, being mixed hot with the blood, became green; but on adding two, or three, ounces of spirit of salt, they became of a fine blue:

which subsided, and left the water clear: The product was an ounce of very fine color, fit for the palette.

Among the experiments made by mixing, in different manners, and proportions, the several liquors of which this color was prepared, all produced a blue; but in different degrees, some being deeper, others paler. In one experiment, the allum was wholly left out, and a very pale blue was produced; in another, the allum and vitriol were used in equal quantities; then the blue was extremely deep.

In all receipts given for making *Prussian Blue*, the liquors are ordered to be mixed together boiling hot, except the spirit of salt; and the color is most readily, and beautifully, made this way.

The method of making *Prussian Blue* in perfection, has been purchased as a very valuable secret. Its process is very extraordinary, and could scarce be derived *a priori*, from any reasoning about the nature of colors. It is allowed to be an excellent blue pigment in point of color; but its durability is justly suspected: It should not, therefore, be used in works of consequence.

The goodness of *Prussian Blue* must be distinguished by its brightness, deepness, and coolness.

Four different processes given for making the finest sort of *Prussian Blue* with quick lime, are given in the Hist. of the Acad. of Sciences at Paris, for the year 1756.

Process I. Take 3lb. of ox's blood, dried and reduced into a kind of small scales, an equal quantity of quick-lime newly baked, 2lb. of red tartar; and 1lb. 8oz. of saltpetre; pulverise the whole grossly, and put it into a crucible, placed in the midst of a great furnace, and give it a gradual fire. After four hours, when the matter is reduced into a kind of paste which emits no more smoke, and is equally red, throw it by spoonfuls into two pails of boiling water; and, having filtrated the lixivium, mix it with a solution of 6lb. of allum, and 1lb. 8oz. of green vitriol. This operation will yield but 7oz. of *fecula*; but its beauty will make sufficient amends for the small quantity, as it will surpass, in this respect, all *Prussian Blues*, prepared by other methods. It has also as good an effect as the finest *ultramarine*; and has, besides, the advantage of resisting the impression of the air.

Process II. Take 3lb. of dried ox's blood, an equal quantity of quick-lime, 2lb. of red tartar, and 2lb. of nitre; let them be calcined and lixiviated, as in the former process; pour the lixivium into a solution of 4lb. of allum, and 1lb. of green vitriol. This operation will yield more of the *blue fecula* than the other, but the color will be less beautiful.

Process III. Take 3lb. of dried ox's blood, 4lb. 8oz. of quick-lime, 2lb. of red tartar, 1lb. 8oz. of saltpetre, proceed as before. This operation will produce a most beautiful *blue*; but the quantity will be only about 8oz. and 4 drams.

Process IV. Take 3lb. of dried ox's blood, 6lb. of quick-lime, 2lb. of red tartar, and 1lb. 8oz. of nitre. Calcine and lixiviate as before; pour the warm lixivium into a solution of 4lb. of allum, and 1lb. of green vitriol; the *fecula* precipitated in this way will be as beautiful as those of the first process, and the quantity nearly 26 ounces.

*The price of that kept in the shops is from* 8*d. to* 2*s. per ounce. Bladders, ground in oil,* 6*d. each.*

INDIGO. Vide *Indigo.*

VERDITER. Vide *Verditer.*

ULTRAMARINE. Vide *Ultramarine.*

BLUE, POWDER, or SMALT: This is a troublesome color, not much in request. *Price from* 1*s.* 6*d. to* 12*s. per ounce.*

BLUE, TURNSOL, is made of the seed of that plant, by boiling four ounces of turnsol in a pint and an half of water, in which lime has been slacked.

Mr. BOYLE has given us the following method of making transparent *blue,* nearly equal to ultramarine. The principal ingredient is the *cyanus,* or *blue* corn-bottle-flower; which may easily be procured during the summer months.

This flower has two blues in it, a pale color in the large outer leaves; and a deeper blue, in the middle of the flower: these produce much the best color. This may be observed by rubbing the leaves, while fresh, on a piece of writing paper, so as to express the juice, which will yield an excellent color; that, by the experience of two or three years, has not been found to fade.

A sufficient quantity of these middle leaves being procured, let the juice be pressed from them; to which a little allum being added, will give a lasting transparent *blue*; scarcely inferior in brightness to ultramarine.

It is very probable, that if the chives of these flowers were cured in the same manner as saffron, they would produce a much greater body of color, from which a tincture might be drawn with more ease than when pressed fresh from the field.

Mr. BOYLE also recommends another fine BLUE, produced from the blue leaves of rue, beaten in a stone mortar with a wooden pestle, and then put into water for fourteen days, or more, washing them every day, until they are rotten. These, beaten up at last, water and all, until they become a pulp, and then dried in the sun, will make a fine blue for shading.

BLUE, TRANSPARENT, for washing maps, &c.

Take half a pound of the best French verdigris, add six ounces of red argil: let them soak together about six and thirty hours, in about two quarts and a half of fair water: then boil them till the ingredients are dissolved, let the liquor settle and pour it off.

United with the tincture of Avignon-berry, it makes an excellent *green*, and will keep well; to secure which you may add a little spirits of wine.

It is necessary to caution our friends against moistening the pencil used in this color, with the tongue; or by any other means admitting the color into the mouth, as the verdigris is apt to occasion a disagreeable sickness.

BRAZIL-WOOD, is a South American production, variously denominated according to the places from whence it is brought; as from Fernambuc, Japan, St. Martha, &c.

The tree grows in dry, barren, places, or on rocks; is very thick and large, usually knotted, and crooked. The thickness of the tree is chiefly owing to a gross coat of bark, which when removed, reduces the trunk to less than half its former size. The flowers, which are of a fine red, exhale a very agreeable scent.

This wood is very heavy and dry; that of Fernambuc is the best. It should be chosen clean, close, sound, and free from bark.

From the best Brazil-wood, is procured a kind of carmine, by means of acids. A tincture is drawn from it thus:

Infuse a quarter of a pound of Brazil-wood (which may be bought in chips, or shavings) in about two quarts of water; when it boils, add nearly an ounce of rock allum powdered. Strain the liquor when of the strength desired. This may be evaporated to a very deep color: or, the wood once boiled, may yield a weaker tincture. It requires no great skill in using.

**Red Ink**, is made of it, by boiling a quarter of a pound of the raspings, in vinegar, wherein it has been infused two or three days; then, while hot, filtering it through paper, in an earthen cullender; then heat it again, and add half an ounce of gum arabic, and, when that is dissolved, of allum, and of white sugar, half an ounce each.

Acids turn a solution of Brazil-wood yellow, alkalies change it to purple; so that lemon juice, or spirits of vinegar, render it yellow; oil of tartar, violet.

*Price of the raspings about* 1*s. per lb.*

BRONZE PAINTING, is used to color plaster figures, &c. and is of two sorts: Yellow, which is merely the finest copper dust applied with varnish: and Red, which is a little red ochre well pulverised, added to the former. The work is dried as soon as bronzed.

## BROWNS.

BROWN OCHRE, is a *cheap* color. Vide *Ochre.*

BROWN PINK. Vide *Pink.*

COLOGNE EARTH. Vide *Cologne Earth.*

SPANISH BROWN, a coarse dull color, chiefly used by house-painters, but may be employed in some parts of landscapes, for variety, &c.

SPANISH LIQUORICE, diluted with water, makes a brown color useful for variety among water colors.

TERRA DI SIENNA, in its native state.

TERRA DI SIENNA. Burnt.

UMBER, in its native state.

UMBER. Burnt.

BUCKTHORN BERRIES, furnish three kinds of colors. Being gathered green, dried, and steeped in water, a yellow; when ripe, a SAP-GREEN *(vide* sap-green;) when fully ripe, and ready to drop from the branches, a purple.

BOXES FOR COLORS, are of many various contrivances, according to the purposes of those who use them.

The general principles to be regarded in construcing Boxes, are, that all articles of a similar nature should be collected nearly together; colors in oil by themselves; colors in water by themselves, &c.

Boxes complete to hold a variety of colors, varnishes, &c. are sold from 2l. 2s. to 2l. 10s. each. Portable boxes are much cheaper, but are usually contrived by their proprietors.

CALCINATION, differs from mere burning, in that the latter leaves the substance burnt, of a black color, the former leaves it white. Calcination increases the weight of lead, which thereby becomes *red (i. e.* MINIUM) almost one-fourth.

CALQUING, is a term used where the back of any design is rubbed over, or coated with a fine powder, such as black lead, red chalk, &c. and the lines of the drawing by a point traced over them, are transferred to a paper laid beneath the back so coated.

This operation is useful where an original is to be copied of the same size: care must be taken, that neither the original, or the copy, be moved, from their exact situation with respect to each other, during the operation; lest the parts transferred should be false.

Drawings intended to be made in red chalk, should be calqued by red chalk: not by black lead, as that has a greasiness which refuses to cut chalk properly; nor by black chalk, since the lines may then injure the drawing by their different color from the rest of it.

CALQUING, is likewise used to signify the taking an impression from a drawing in chalk, by passing it through a rolling-press, with a sheet of wet paper upon it. The use of this procedure is to transfer on the wet paper the powderly particles of the chalk used in drawing, and to fix those remaining in greater security from their being rubbed, and smeared. The tone of the drawing is rather deepened than lightened by this operation; the copy on the paper will be an exact *reverse* of the original. Several drawings laid on each other, may be passed at once; but if they are passed more than one way, there is a hazard of their being moved and misplaced in their passage back.

Sometimes prints are *calqued* by dissolving part of their ink, by means of soap, and transferring it to a fresh ground; or, white paper, &c.

A drawing in water colors may be *calqued* by passing over the outlines with a good black-lead pencil, them warming the plate on which the ground is laid, so as *hardly* to melt the ground; and, laying the drawing on it, pass them through a rolling-press properly adjusted. This method succeeds very well for landscapes. Or, if a tracing be made with red chalk, ground with water only, the colors will, when passed through a rolling-press, be transferred to the ground on the plate.

CAMPEACHY-WOOD, is nearly related to BRAZIL, and by no means superior for its utility in the arts; but it furnishes a good purple.

CARMINE, is a bright, deep, rich, crimson color, bordering something on purple, used constantly in water colors, but very rarely in oil; because it will not mix kindly in oil, as well as because of its high price. It is a color which spends well. Carmine is the most valuable product of the *cochineal mestique*, it is a fecula, or sediment, of water wherein is steeped cochineal, &c. thus:

To rain water, wherein thirty-six grains of chouan have been boiled three times, and strained, are added five drams of cochineal, and this likewise is boiled three times; then add eighteen grains of Achiotte, or roucou (if thought proper), and the same quantity of rock allum; this liquor is boiled once; then filtered through a linen cloth, and suffered to stand till it has deposited its sediment; which, when dried, is the carmine.

The additional ingredients are perhaps better omitted (and we believe at present generally are omitted), since carmine is nothing more than the coloring particles of cochineal dissolved in an alkaline lixivium, and precipitated by allum.

Some give the following process to obtain carmine from scarlet wool; Boil the wool in a strong ley of pot-ashes till it has lost its color; then filter off the ley, with which incorporate a sufficient quantity of allum, and filter the liquor: the carmine will remain in the filter.

An inferior kind of carmine is made of Brazil-wood, by steeping one pound of raspings in white-wine vinegar, during three or four days, with some gold leaf beat fine in a mortar: boil the liquor about half an hour, and strain it through a coarse sieve, temper in another vessel eight ounces of allum, which add to the crimson liquor, stir them well together, the scum is the carmine.

An *extempore* carmine tincture is made by putting thirty, or forty, grains of cochineal bruised, into a gallipot, with as many drops of tartar ley as will just moisten it, then add as much fair water as you desire the color to be deeper or fainter: it is now purple, but by adding a small quantity of allum very finely pulverized, or scraped, it will become crimson. Strain it, and use it speedily, for it will not keep.

Cochineal tincture is heightened in its color, by spirits of urine; is turned purple by *saccharum saturni*; and by quick-lime is rendered fading, though extremely beautiful.

In no commodity is a purchaser more likely to be imposed on than in carmine; its brightness of color and fineness as a powder, should be attended to.

*Prices,* 16, 20, 24, 28, *to* 32*s. per ounce. None good under this price, some higher*; *up to two guineas per ounce.*

CHARCOAL, is an artificial coal, or fuel; being wood half burnt, and then extinguished. It is an excellent material to sketch with in beginning a design, as it may be brushed out even by a feather. The softest kind is preferred, which is that made of the willow.

CHALKS, are very useful in the art of design, being usually put into the hands of beginners. We have WHITE, RED, and BLACK CHALKS.

WHITE CHALK, of the best quality, is usually brought from Italy, which country does not possess our common chalk, but a distinct species. Italian chalk is in its texture more firm and compact, its touch is much smoother and neater than any other, consequently it may be used on smaller subjects. The same remark is just on the *black chalk* of Italy.

FRENCH WHITE CHALK, is soft, and adapted only for large subjects, as are all the chalks of France; its *black chalk* is only fit to be used where expedition admits of *stumping*. Considerable quantities of SPANISH chalk are imported; which is in texture between the foregoing, but not very smooth.

RED CHALK, is very much used in design; it is in general of a kind and moderate temper, and readily forms a grain. It is, however, very far from cleanly in its nature, and is apt to smear, and stain, whatever it touches; the precautions necessary to guard against this quality, in fact, contribute to its usefulness, since whoever having been habituated to red chalk can draw clean with it, is secure from injury by using other materials.

*Red chalk* is best used simply on white paper, but some shadow it with black chalk; or, stump in black chalk first, into the shades, and relieve with red.

*Black* and *white* chalks mutually assist each other, on a paper whose color serves for a demi-tint. The bad is quite worthless. Chalk to be good, should be free from grit, and not too hard. *Price varies according to quality, from 6d. per ounce to 1s. 6d.*

COCHINEAL, is a drug used by the dyers in dying red, especially crimson and scarlet; and, it is the basis of that excellent color CARMINE.

It is brought from the West Indies; and said to be produced by an insect which inhabits the leaves of certain plants of the opuntia kind.

The finer sort, which is gathered from trees planted and cultivated on purpose, and managed with great care, is called *mestique*; the other is named *wild*, being found on uncultivated plants, and is very much inferior in beauty.

Some are of opinion there is yet another sort, which is not an insect, but the seed of a tree ; of which DAMPIER speaks in his voyages.

In the state it is brought to us, *Cochineal* appears to be small bodies of irregular figures, but usually convex, ridged, and furrowed on one side. The color of the best is a purplish grey powdered with a kind of white dust.

COLOGNE EARTH, is of a deep brown color, is used in oil, but more in water colors.

It is a very singular substance, reckoned by the colormen not a little troublesome to manage. It has been, and still is by some accounted a genuine earth; but others say it contains a great proportion of vegetable matter. It does not form, like other earths, a regular, or entire, stratum where it is found, but is gathered in large flat separate masses, from among other strata.

It is moderately dry while in the earth, and of a texture soft and crumbling, when dried it becomes more compact, and united ; it is very light, smooth, and easily reduced to pieces, adheres firmly to the tongue, and is very astringent, and austere, in its taste, resembling the taste of oak bark ; from these criteria it seems to be the produce of wood, perhaps of oak, long buried in the earth.

It is principally procured from near *Cologne*, in *Germany*, (whence its name) but is found near *Birmingham*, and in *Mendippe Hills*, in Somersetshire, but not perfectly pure.

COPAL, is a shining transparent, citron-colored substance, in smell allied to that of frankincense, it melts easily. It is a production of New Spain, where it ooses from incisions made in the bark of a tree, much the same as wine is drawn from some trees, or, as many kinds of trees yield their sap, in the spring of the year, when cut.

Genuine COPAL is very rare; but in default of this, is brought from the West India islands, another kind, which is the only one to be procured from the druggists.

From this gum, as it is called, but improperly, is procured a varnish, which being digested in oil, is esteemed friendly to oil pictures, and is in request.

A proper quantity dissolved in linseed oil with nearly heat enough to boil, or discompose, the oil, is diluted with oil of turpentine, and forms a transparent varnish, which when slowly dried becomes very hard ; so hard indeed, that, it is said, if the picture underneath it wants alterations, they may safely be inserted on the varnish, instead of first clearing the varnish from the picture. *Price of the varnish,* 1*s. or upwards, for a vial of two ounces.*

CRAYON, is a general name for all colored earths, or other substances, used in drawing, or painting dry, *i. e.* without oil, or water, &c.

CRAYON substances are either natural, or artificial; natural, when the material is of a proper color, and consistence, and admits of being cut into a convenient size and form ; such are *chalks,* whose uses we have noticed, such are *black lead, charcoal,* &c. but, in general, *crayons* are compositions of colored pigments previously reduced to powder, and re-composed into proper mixture and form.

The art of composing *crayons*, depends principally on the mixture of the component colors, and on the adaptation of the vehicle by which they are held incorporated. This is evident, if we consider, with respect to the brilliancy, or the truth, of the tone of color, that it depends on the admission of more, or less, of any certain pigment; and that all compound colors, by possessing too much of any one color which enters into their composition, may prove, when used, unfriendly to their neighbours. That the vehicle is of importance, appears from the consideration that scarce any two earths are equally tenacious; whence it follows, that as some naturally of a loose texture are not without difficulty held by strong binders, others naturally compact, would be rendered, by such binders, almost stones; and, indeed, these are the prevailing faults among those usually offered for sale.

It is perhaps proper to remark, that, although soft *crayons* are preferable generally, yet *crayons may* be too soft, even for large works; and that for smaller works they may be never the worse if a little *firmer*; yet preserving the utmost distance from *hardness*.

Soft *crayons* may, however, be used in large performances; but those which are too hard to give their colors freely, or without wetting, are to be rejected, as totally useless.

For smaller works, CRAYON PENCILS have lately been composed; whose utility depends, like that of the former, on their temper; they have unquestionably an advantage in neatness, and a security from being broken by accidents. *Price about* 1*s. each.*

Many very different vehicles have been suggested to *bind* the colors which form *crayons*: oatmeal boiled thick, milk, ale-wort, gums, glues, &c. Without entering into the merit of their various pretensions, we believe that pale ale-wort, as a vehicle sufficiently strong to hold the tender pigments, which yet may be weakened to accommodate the firmest, has been most used. But, as this has *some* color, which is most sensible in the higher tints, others prefer spirits of wine, which has *no* color in any tint.

CRAYONS must be made in a great variety of tints, to supply readily what tone of color may be required; this variety is obtained by mixture with each other; hence it follows, that according to the judgment of the composer, their tints will vary.

Though we do not suppose that many of our readers will take the trouble to make sets of *crayons*, yet as it may happen that some acquaintance with the manner of proceeding for that purpose, may be of use occasionally, we shall offer some notices of the mode best esteemed.

Procure a large flexible pallet knife, a flat stone of a proper size, and a smaller, with which to grind the colors: also two or three large flat pieces of chalk, whose use is to absorb the moisture from the colors after they are ground (or from the *crayons*, after they are made): a piece of flat glass, which covering the colors, &c. will prevent them from drying too fast; while other parts of them are under operation, rolling into form, &c. Also proper vessels to hold spirits, water, or other liquids, as they may be wanted.

White chalk is so readily offered by nature, that it seems perfectly adapted, without receiving any labour, to be used as a *crayon* of the first order; but, as chalk is rarely so free from grit, or small stones, as might justify our placing any confidence in it, to purify and improve it is the province of art.

Purified chalk is *whiting*; and as whiting is extremely cheap, we consider this material as most convenient for our purpose: Yet as whiting may be capable of still further purity, we proceed to recommend the washing of it in the following manner;—Take a large vessel of water, put the whiting into it, and mix them well together; let this stand about half a minute, then pour off the top into another vessel, and throw the gritty sediment away; let what is prepared rest about a minute, and pour it off as before, which will purify the whiting, and render it free from all dirt and grittiness. When this is done, let the whiting settle, and pour the water from it; after which, lay it on the chalk to dry, and keep it for use, either for white *crayons*, or for the purpose of preparing tints with other colors, for, with this, all other tints may be safely prepared. If the student chooses to make *crayons* of whiting immediately after it is washed, it is not necessary to dry it on the chalk, for it may be mixed instantly with any other color; which will save considerable trouble. All colors of a heavy, or gritty nature especially blue *verditer,* must be purified by washing after this method.

We observe that if *crayons* are too *thin, i. e.* if they have too much moisture in proportion to their quantity of color, they will dry too flat; if they are too *thick, i. e.* if they have too much color in proportion to their moisture, they will occasion a waste of color, by their adherence to the palette knife, &c. The general rule is, when the *crayon* is made, to lay it on the chalk, that its moisture may be absorbed to a proper degree; that degree is determined by the feel of the *crayon* in the hand; if it lose the greater part of its adhesive quality, and seem of a proper consistency, then it may be laid on the glass; which will not dry it so fast as the chalk would have done, but will allow time for rolling it into *crayons.* Otherwise the *crayon* when completely dry would be brittle, and full of cracks, which is a great inconvenience to the artist in using it.

We have now got a body of white *crayon* which will serve to lighten all others that are to be made; for, as we have already observed, *crayons* are compositions of different colors; now if to a portion of this body of white we add a portion of black, we shall compose a grey; if we add a deep blue, we shall compose a light blue; if a brown, we shall produce a brown so much lighter, as corresponds to the quantity of white which we have admitted into the mixture; upon this principle, varied according to the taste, the judgment, or the skill, of the composer, are all *crayons* made; and an endless variety of shades results from their different combinations.

The different compositions of colors must be cut into proper lengths, after they are prepared, in order to be rolled into pastils for use. Each *crayon* should be formed by being rolled in the left hand with the ball of the right, and be formed first cylindrical; then taper at each end. If the composition be too dry, dip the finger in water; if too wet, the composition must be laid on the chalk again, till more of its moisture is absorbed. The *crayons* should be rolled as quick as possible; and, when finished, must be laid upon the chalk again, to lose all remaining moisture. After the gradation of tints from one color are formed, the stone should be well scraped, and cleansed with water, before it is used for another color.

It is impossible to lay down rules for mingling of every tint necessary in composing a set of *crayons*, there being many accidental compositions, entirely dependant on fancy and opinion. The student should make it a rule to save the leavings of his colors, for of these he may form many various tints, which will occasionally be useful.

We suppose now, that we desire to make *crayons* of any color: In this case, we first prepare the simple color, grinding it with spirits of wine, till it be perfectly smooth, fine, and even; then, taking a proper quantity of it, we lay it on the chalk, till somewhat advanced toward dryness; then we roll it, and form it, and return it to the chalk to be finished

by

by drying thoroughly. Of the color which remains ready ground we proceed to compose tints of various shades, by mixture with the purified chalk, or whiting, already mentioned,—as thus:

Take some of the simple color, and levigate it with spirits of wine, adding about one part of washed whiting to three parts of color, of which, when properly incorporated, make two parcels. The next gradation should be composed of two equal quantities of color and whiting, of which four *crayons* may be made. The third composition should have one fourth color, and three fourths whiting, of this make *six crayons*, which will be a good proportion with the rest. The last tint should be made of whiting very faintly tinged with color, of which make about *eight crayons*, which will compleat the above-mentioned proportion. As these compound tints are levigated, they are to be laid immediately on the chalk, that the moisture may be absorbed to the proper degree for their formation into *crayons*. If its consistency be right, the composition may then be laid upon the glass, which will prevent it from becoming too dry before it is convenient to form it into *crayons*.

CRAYONS when complete should be kept in a box by themselves, each suite of colors distinct, to prevent injury from its neighbours; in the order —from lightest to darkest; and, if numerous, the lighter ones separate from the darker of the same color.

CRAYONS should be pointed, if requisite, by drawing the knife from the point of the *crayon upwards*.

## WHITE CRAYONS

Are made of the best tempered CHALK, sawed into convenient lengths.

## YELLOW CRAYONS

Should be divided into several degrees of color.

I. Mix flowers of SULPHUR, in due proportion to produce the color desired.

II. KING'S YELLOW makes a fine bright color—but, remember it is of a poisonous quality.

III. NAPLES YELLOW, in various tints.

IV. Reduce YELLOW OCHRE to powder by very fine grinding; mix with it, purified WHITE CHALK to your mind.

V. YELLOW OCHRE simply, ground very fine.

VI. ENGLISH PINK, mixed with chalk, to form a proper gradation to the preceding color.

VII. ENGLISH PINK, simply.

VIII. DUTCH PINK.

It is easy to perceive from the foregoing specimen, that the principles on which crayons are composed, are, the heightening a certain color, by means of one somewhat lighter, and deepening the same color, by one somewhat darker; by gradating the colors according to their natural tones on a general scale; and by composing the requisite variety of tints, by reciprocal mixtures of the original pigments.

As the variations from any fixed scale of colors are infinite, and only to be regulated by the fancy or inclination of the composer; we shall content ourselves with hinting at their *general* mixtures, and shall leave their gradations *ad libitum.*

## ORANGE CRAYONS.

I. YELLOW ORPIMENT, mixed with VERMILION.

II. ORPIMENT and RED LEAD.

III. ENGLISH PINK, mixed with VERMILION.

IV. ENGLISH PINK, with RED LEAD, finely ground.

V. DUTCH PINK mixed with RED LEAD.

## REDS.

I. RED LEAD, finely ground ; also varied by chalk.

II. RED OCHRE, used as chalk : also varied.

III. VERMILLION, ground fine ; also varied with chalk. The best vermilion is inclined to the carmine tint ; nothing is required to prepare this color more than to mix it on the stone with soft water or spirits, after which it may be rolled into crayons. The different tints are produced by a mixture of the simple color with whiting, according to the proportions already given.

IV. LAKE, finely ground ; also varied with chalk. LAKE is a color very apt to be hard ; to prevent which, observe the following particulars :

Take about half the quantity of Lake intended for the crayons, and grind it very fine with spirits of wine ; let it dry—then pulverize it, which is easily done if the lake be good ; then take the other half, and grind it with spirits, after which mix it with the pulverized lake, and lay it out directly in crayons on the chalk. This color will not bear rolling.

The simple color being thus prepared, proceed with compound crayons, as directed before, and in the same degree of gradation as the carmine tints.

V. INDIAN RED, finely ground; also varied with chalk.

VI. CARMINE, is so very dear that a small crayon of it costs five shillings. Carmine crayons are thus prepared: As their texture is inclinable to hardness, instead of grinding and rolling them, take a sufficient quantity of carmine, lay it upon the grinding-stone, mix it with a levigating knife with spirits of wine, till it becomes smooth and even. The chalk-stone being ready, lay the color upon it to absorb the spirit, but be careful that it is laid on in a proper shape for painting. It has its advantages; but for ordinary works, instead of it, may be used,

VII. ROSE PINK, simply, which indeed is not durable; but it is much cheaper for ordinary uses.

## PURPLES.

I. ROSE PINK, finely ground, mixed with *cendres bleu*; for ordinary use only, as it fades.

II. LAKE, with blue BICE, simply; and heightened by white, in several proportions.

III. LAKE, with PRUSSIAN BLUE, simply, and in several proportions.

Now, as all purple colors are mixtures of red and blue, it is evident, that, by inserting a greater proportion of one than of the other, a variety is obtained, which inclines toward that color of which there is the greatest quantity, a red purple, or a blue purple, is therefore easily produced, by admitting more of the color desired.

The same remark applies to greens, which being composed of yellow and blue, may incline more, or less, to either of those primitive colors.

## BLUES.

I. Bice is the lightest blue used, finely ground, simply; also heightened by white, in several proportions.

II. Verditer, simply; and heightened in various proportions. It is a color naturally gritty, and therefore it is necessary to wash it well. Its particles are so coarse as to require some binding matter to unite them, otherwise the crayons will never adhere together. To accomplish this, take a quantity sufficient to form two or three crayons, to which add a piece of slack Plaster of Paris about the size of a pea; mix these well together, and form the crayons upon the chalk. This blue is extremely brilliant, and of great use in heightening draperies, &c. The tints must be formed with whiting as directed in the former instances, and are highly serviceable for painting flesh, to produce those pearly tints so beautiful in crayon pictures. It is not necessary to mix the compounds with spirits, as clear water will be sufficient.

III. Prussian blue, simply; and heightened in several proportions. This color is very apt to bind, and is rendered soft with more difficulty than carmine and lake. The same method of preparation must be followed with this as is directed with respect to lake, only it is necessary to grind a larger quantity of the pure color, as it is chiefly used for painting draperies. The different tints may be made according to necessity, or to the fancy of the painter.

IV. Indigo, heightened in several proportions, and simply; mixed as Prussian Blue.

## BLACKS.

I. Charcoal; the softest is the best.

II. Ivory black, ground very fine.

III. Lamp black. It is the only black that can be used with safety, as all others are subject to mildew. Good *lamp-black* is scarce; for the process of making it, see Blacks, Lamp Black.

It is obvious that black heightened in several proportions with white, will make a grey; and this grey may be varied at pleasure, by admitting a little blue, brown, &c.

## BROWNS.

I. Fuller's earth, ground finely, in several proportions.

II. Fuller's earth, mixed with Spanish brown, heightened.

III. Spanish brown, simply.

IV. Spanish brown, mixed with Indian red, heightened variously.

V. Cologne earth, is a fine dark brown. After six or eight of the simple crayons are prepared, several rich compound tints may be produced from it, by a mixture of carmine, in various degrees.

Black, carmine, and this color, mixed together, make useful tints for painting hair; several gradations may be produced from each of these by heightening, &c.

VI. Roman, or brown ochre is an excellent color, either simple, or compounded with carmine. Whiting tinged, in several degrees, with either of these, will prove very serviceable.

VII. Umber, may be treated in just the same manner, only it is necessary to levigate it with spirits of wine.

## GREENS.

I. Verdigris, boiled in sharp vinegar, add to it while boiling, a little powdered tartar; evaporate the moisture, the color will then become solid; this dissolved, mix with white chalk, as required.

II. Verdigris, ground with vinegar and repeatedly washed.

III. Verdigris, prepared as above, mixed with Prussian blue in several proportions. These mixtures may be heightened as usual.

IV. Indigo, mixed with English pink.

V. Bice, mixed with Dutch pink, in several proportions.

VI. Rock indigo, mixed with flowers of sulphur, in several proportions.

VII. Indigo, mixed with Dutch pink, in several proportions.

## OTHER COMPOUND COLORS.

Vermilion mixed with carmine.—This is a composition of great use, and tints made from this with whiting will be found very serviceable.

Carmine and black is another good compound, of which five or six gradations should be made, some partaking more of the black, and others having the carmine most predominant, beside several tints with a mixture of whiting.

Vermilion and black is also a very useful compound, from which several different tints should be made.

Prussian blue and black is another good compound, and will be found of singular service in painting draperies.

By the combinations to be gathered from these hints, may be composed an inexhaustible variety of tints. It is seldom that an artist procures a complete set of crayons *(price not less than three guineas)* but selects what he chooses from among others, to form his collection, which is more or less numerous at pleasure.

When the set of crayons is completed according to the rules prescribed, they should be arranged in classes for the convenience of painting with them. Some thin drawers, divided into a number of partitions, is the most convenient method of disposing them properly. The crayons should be deposited according to their several gradations of lightness. The bottom of the partitions must be covered with bran, as a bed for the colors, because it not only preserves them clean, but prevents their breaking.

The box made use of, when the student paints, should be about a foot square, with nine partitions. In the upper corner, on the left hand, (supposing the box in the lap) let him place the black and grey crayons, those being the most seldom used; in the second partition, the blues; in the third, the greens and browns; in the first partition on the left hand of the second row, the carmines, lakes, vermilions, and all deep reds; the yellows and orange in the middle; and the pearl tints next; as these last are of a very delicate nature, they must be kept very clean, that the gradations of color may be distinguished. In the lowest row, let the first partition contain a piece of fine linen rag to wipe the crayons with while they are using; the second, all the pure lake, and vermilion tints; and the other partition may contain those tints, which, from their complex nature, cannot be classed with any of the former.

PORT-CRAYON, is a convenient instrument for using chalks, &c. It is made of brass, steel, or silver; *price*, in brass, 6*d.*; in steel, from 1*s.* 6*d.* *upwards*.

DISTEMPER, is a mode of painting, wherein the vehicle used to compound and fit the colors for application, is size, white of eggs, or some similar gluten.

The best method of compounding colors in distemper, is, to mix the size in water, to a proper strength, then to grind the colors in part of it, puting each color separately in a proper pot, &c. Add a sufficient quantity of size to allow for the diminution of its strength by a subsequent addition of warm water, as wanted, either to grind the color, or in the working of it. The pots should be securely tied with bladders.

It is evident that distemper paintings will not abide the injuries of the weather; their utility is confined to internal decoration, and to spacious areas, where the eye may be deceived by the perspective, without coming sufficiently near to scrutinize the handling, &c.

The scenes at the theatres are painted in distemper.

### *To make Size for painting Scenes, and other Candle-light pieces.*

Steep a quarter of a pound of the cuttings of white glove-leather in water for some time; then take them out, and boil them in three quarts of water till it is wasted to a pint, and strain it through a cloth into an earthen pan. When the size is cold, if it feels firm under your hand, it is sufficiently strong. You may prepare any colors with this size while it is warm, and it will take off the glare which would appear upon them by candle-light, if mixed with gum-water.

DRIERS, are used to those colors which when alone are long in drying: Those chiefly used, are drying oil, *(vide oil)* and oil, or spirits of turpentine; the latter from its clearness, is less likely to injure the lighter colors.

DUTCH PINK, is the coloring particles of the Avignon-berry, procured by reducing the berry to powder, and boiling it till the color is extracted.

*Price* 1*d. per ounce, bladders* 3*d. each.*

EGG-SHELL WHITE, is used in water colors, with success.

It is prepared by washing the shell very carefully, and peeling off the thin film on the inside, then grinding the shell to an impalpable powder with gum-water, or about a twentieth part of white sugar-candy. Some order it to be washed before the gum is added, by rectified spirit of wine.

This is said to be of great service as a white, and with the oyster-shell powders, will contribute to the security of colors with which they are incorporated.

ENGLISH PINK, is of the same nature as Dutch pink, being obtained from the same substance.

ENGRAVING, is an art of which we shall treat by itself; also of

ETCHING; and of

ENCAUSTIC PAINTING, by means of wax.

FLAKE WHITE, is lead corroded by the vinous acid. The purest and best is brought from Italy. It is very useful in oil, and varnish painting; because those vehicles prevent the access of the air so as to act upon the lead; for, it is to be observed, that however prepared, lead constantly retains a disposition to recover its natural color. Hence, in water colors, the air to which it is liable, injures it, as also does every ferruginous mixture. Water, impregnated with iron, will in time turn the white, with which it is used, into a dirty black: and will even hurt the lighter colors, into mixtures of which the white has been admitted.

To prevent this in part, some use distilled water; others, content themselves with grinding the white lead first in vinegar, till it becomes thoroughly black; then washing it with water, till it returns to whiteness: and this they think will maintain its color.

It is a commodity very liable to be adulterated: What a person grinds himself, from the lumps in which it is brought over, he may best depend on.

*Price 2d. per ounce, in bladders 6d. each.*

FRUIT.—As many of the colors used in the arts are extracted from vegetables, it should seem by parity of reason that many might be procured from FRUIT: but all endeavours to this purpose have hitherto failed; for however bright the colors thus extracted may seem, they quickly fade. It is true, the juices of currants, mulberries, elder-berries, morello, and black cherries, may be dried, and if worked up again, they give nearly their first color, but it cannot be depended on, especially if exposed in the open air.

It might, nevertheless, be worth while to examine the juices of fruits natives of warmer climates, which require and receive most solar heat to bring them to perfection: since those juices which are naturally most exalted, are usually most durable, and best admit of extracting in tincture. The bright red *fruit* of the *opuntia*, or prickly pear, is said to furnish a durable red.

GALL STONES, are concretions of earthy matter, found in the gall-bladders or bile ducts, of beasts, especially of oxen.

When moistened with water, and treated as gamboge, GALL STONES yield a deep, and very warm yellow, verging toward orange; which is serviceable on account of its brightness, and durability, and, especially, because it is a very applicable shade to other colors. It is of different degrees of goodness.

*Price* 1*s.* 6*d. per dram.*

As the quantity of this substance is but small, not being *generally* found in the bodies of beasts, a substitute, more readily procured, and much cheaper, is thus obtained:

Boil a quart of the fresh bile of oxen, with a quarter of an ounce of gum-arabic, in a pewter vessel, suspended in water; evaporate the mixture to about an eighth, which remove into a cup, or bason, and let it become dry, collecting it into a mass as it hardens. This, if not equal to the natural concretion, is yet very useful where that cannot be had.

Or, the tincture from the Avignon-berry, may be drawn so deep as to serve for an occasional substitute.

GAMBOGE is a very useful color; its appearance in a lump, is of a fine orange color (the deeper the better) but when softened in water, and used, it is of a bright yellow. It requires no preparation, but may be bought at the chemist's, being sometimes used in medicine.

*Price* 6*d.* *or* 8*d. per ounce.*

GLAIR, or WHITE OF EGGS, is sometimes used as a varnish for pictures. It is beat with a spoon to an unctuous consistence, till it rises in froth; then by standing all night, it becomes clarified into a good GLAIR, and to make it work freely, is mixed with a little brandy, and with a lump of sugar, to prevent its cracking; which, however, it very imperfectly performs, so that it is apt to crack the colors of the picture it covers, and therefore should not be used to pictures of value.

GOLD SHELL, is used to write gold letters in mottos, &c. It is made by grinding very finely gold leaves, or gold-beater's fragments, with a little honey, and afterwards washing the honey from the gold by water. The gold thus procured, may be transferred by a little gum-water to the shells for use.

Another process is thus given:—Grind the finest leaf-gold with strong gum-water very fine, adding, as you grind it, more gum-water as you see necessary. When you have ground it as fine as you can, wash it in a large shell; then temper it with a little mercury-sublimate, bind it in the shell with a little dissolved gum, shake and spread it equally all over the shell, and use it with fair water only.

*Price 6d. per shell.*

GOLD-LEAF, is used by washing the part on which it is to be retained, exactly with gum-water, on which, while drying, must be laid the leaf of gold as evenly as possible, pressing it down close with cotton. To make the gold leaf take the colors wherewith it is to be shadowed, stroke it over with a weak liquor of ox-gall.

The proper shadows to the gold itself are gall-stone; or, a deep tincture from the Avignon berry.

In some manuscripts may be seen golden letters which rise above the surface of the vellum: To imitate them: beat up vermilion very strongly with the white of an egg, into a kind of paste; this paste is fixed in its proper form on the vellum by gum-arabic, and secured by a strong pressure; on this figure wash some strong gum-water with a pencil, then lay on the gold leaf as before. When dry it will bear polishing, which is always performed with a dog's tooth. This manner of gilding has a good effect in coats of arms, &c.

It should be observed, that base gold, or gold leaf, will not answer when used in water, but will change color quickly. In varnish, it is said, to stand well enough.

*Price of gold leaf about* 1*s.* 8*d. per book.*

GUMS are very useful materials in the arts, whether we consider them, as in water colors, the vehicle of the application of colors; or as varnishes to secure oil pictures.

Those used in the arts, are in their nature greatly similar; and chiefly vary as they are more or less compact in texture.

Gum-arabic, is of a moderate and friendly temper, to bind and apply water-colors. *Price 2d. per ounce.*

Gum-sandarac, *price 2d. per ounce,* and Gum-mastic, are yet stronger; the latter is used chiefly in making varnish for oil pictures. *Price 6d. per ounce.*

There are other gums occasionally used by caprice, the softest of all is gum-tragacanth.

GRAVER, is a steel instrument, useful to engrave on metals. It consists of four sides, the two which form the belly are polished very smooth; their declination is more, or less, angular; the point is formed by the two inferior sides. When ground, the breadth of the end of the tool is termed its face.

Gravers should be made of the best steel; they are usually too hard as sold in the shops; the best way of tempering them, is, by infusing into them gradually a quantity of heat (which is readily done, by holding them on a red hot poker, or other heated body, &c.) till they change to a light straw-color, or deeper, according to their previous hardness, then, dipping them in oil. The graver which yields to a file, is too soft, and worthless. If the point breaks often, it is too hard. Gravers are made of various forms, and more or less lozenge in shape, for various services.

For more of their management *vide* Engraving.

GREEN is very rarely a simple color; but is compounded of blue and yellow.

A mineral green is said to be brought from Hungary.

Verdigris, and sap green, are the greens most used in water colors.

GROUND *for Etching.* The importance of this article to engravers is very considerable. There are several compositions which have been employed as grounds; (called varnish by some) as for instance:

Rembrandt's ground. Take half an ounce of asphaltum burnt, and gum-mastic the same quantity, one ounce of virgin wax; beat, or grind, the mastic and asphaltum very fine; melt the virgin wax, in a new earthen pot, over a gentle heat, add to it, when melted, the mastic and asphaltum, by degrees, stirring the mixture till they are thoroughly incorporated; when intimately compounded, pour the whole into clear water, and make it into a ball. In using this ground the plate must not be too hot, and the thinner it is laid the better.

CALLOT'S GROUND. Take a quarter of a pound of virgin wax, and half a quarter of a pound of asphaltum, the same quantity of mastic, one ounce of rosin, one ounce of shoe-maker's pitch, half an ounce of common pitch, half an ounce of varnish; melt the wax, and add the other ingredients gradually, as before, and, when incorporated, pour it into water.

If the quantity of mastic be greater, it renders the ground softer; which, if the quantity of mastic be less, will be proportionably harder.

Another ground is made thus; To a quarter of a pound of virgin wax, add, half a quarter of a pound of asphaltum, one ounce of amber, one ounce of mastic, grind the asphaltum and mastic very fine, melt, &c. as above.

Grounds have been composed, among other ingredients using nut-oil, &c. but these are obsolete. Some proportion the ingredients thus; virgin wax six ounces; mastic four ounces; asphaltum two ounces.

Ground is sold in balls, *price* 1*s.* *or* 2*s.* each. The French make very good ground.

HORTUS SICCUS is a name given to a collection of dried plants. As the manner of preserving specimens of this kind may occasionally prove very serviceable to artists; we shall transcribe the process from Dr. HILL:

Take a plant in flower, with one of its bottom leaves on it, if it have any; bruise the stalk, if too rigid, or slit it if too thick; spread the leaves and flowers on paper, as nearly in their natural order as may be, cover them with more paper, on which place a sufficient weight. In a day, or two, or whenever perfectly flat, lay the plants on a bed of dry common sand; sift over them more dry sand, and let them lay three weeks, or a month. After they are perfectly dry, and hardened, they are placed in books by the following cement: Infuse for a considerable time before it is wanted, two ounces of camphor in three quarts of water, shake it from time to time: add, when the plants are ready, two ounces of carpenter's glue, and two ounces of isinglass, to a pint of water; let them stand a day or two, then boil the liquor, and strain it through a coarse cloth. Smear the backs of the plants with this cement when warmed; lay them on paper, and gently press them; then expose them to the air a few minutes, and finally lay them to dry under a small weight.

To preserve flowers perfectly; we are told, to gather them when not yet thoroughly open, in the middle of a dry day; put them into a good earthen vessel glazed within; fill the vessel up to the top with them; and when full, sprinkle them over with some good French wine, with a little salt in it; then set them by in a cellar, tying the mouth of the pot carefully down. After this, they may be taken out at pleasure, and on setting them in the sun, or within reach of the fire, they will open, and retain not only their color, but their smell.

Sir ROBERT SOUTHWELL has communicated a method of drying plants, by which most of them preserve their proper colors. Two plates of iron of a proper size, must be made so thick as to prevent bending, and must have a hole near each corner for the reception of a screw.

These prepared, lay in readiness several sheets of paper, gather the plants with their flowers, when quite perfect, in the middle of a dry day; lay them on one of the sheets of paper doubled in half, spreading out the leaves and petals nicely. If the stalk be thick, it must be pared or cut; lay several sheets of paper over and under the plant, then put the whole between the iron plates, screw them close, and put them into an oven after the bread is drawn, during two hours. After this, mix equal parts of aqua-fortis and brandy, and rub the flowers lightly over with this liquor; then lay them on fresh brown paper, and press them gently till the wet of these liquors is dried away. The plant thus prepared; put the quantity of a nutmeg of gum dragon, into a pint of fair water cold, and let it stand till dissolved; then with this liquor daub over the backsides of the leaves, lay them carefully down on white paper and press them lightly. Care must be taken, that the heat of the oven be not too great.

Another way of keeping both flowers and fruit the whole year, by the same author. Take salt-petre one pound; bole-armoniac, two pounds; clean common sand three pounds mix all well together, then gather fruit of any kind, that is not full ripe, with the stalk to each; put these one by one into a widemouthed glass, laying them in good order; tie an oil-cloth over the top, carry the glass into a dry cellar, and set the whole upon a bed of this prepared matter four inches thick, in a box; fill up the remainder of the box with the same preparation, and let it be four inches thick over the top of the glass and round all its sides. Flowers, thus preserved, may be taken up after a whole year, as plump and fair as when buried.

INDIAN RED, is an earth of the ochre kind, of a fine compact texture, very heavy, and of a purplish deep red. It is said to be, while in the earth, of a deep blood color, and so hard as to resist a spade. It is of a rough dusky surface, and abounds in glittering particles, it adheres firmly to the tongue, is harsh to the touch, and stains the hands deeply. It is so strong a color in oil, that it overpowers those with which it is mixed, unless cautiously used. *Price* 1*s. per ounce, bladders* 3*d. each.*

INDIGO, is the product of a plant cultivated in the hot countries of America, the West Indies, &c. It is procured by rotting the plants in water, by a subsequent fermentation, &c.; the very best is said to be brought by the Portuguese from Brazil.

It is the deepest of blues, and is a soft pleasant color, after it has been finely ground. In using indigo, try its tone first, lest it should prove stronger than is supposed. *Price* 8*d. to* 1*s.* 6*d. per ounce.*

INK, INDIAN, the best is brought from China, but the makers are such cheats, that it is not to be known whether good or bad, but by breaking.

It is sold in little square cakes, *price from 6d. upwards to 5s.*

ISINGLASS, is one of the purest animal glues, being the product of certain kinds of fish.

It is used in the arts much on the same principle as gums are used, *i. e.* as a proper vehicle, wherewith occasionally to apply water colors; and being of great strength, it is of much service. It dissolves in brandy, or in spirits of wine, better than in boiling water.

Isinglass size.—To half an ounce of beaten isinglass add a pint and half of water, to be boiled until the isinglass is dissolved, and strained through a piece of fine linen while warm; Let it be divided into two equal parts; to one of them add an equal quantity of warm water, this keep in a vial for use, the other keep undiluted, that you may be furnished with a strong, as well as a weak, size.

IVORY furnishes the tablets used in miniature-painting.

To prepare them for receiving the colors, *i. e.* to take off the greasiness which injures their superficies, some only rub them with a fine piece of pumice stone, or scrape them with a fine-edged knife; others wash them over with ox gall; and others, prefer as the best method, the rubbing them over with the juice (or a clove) of garlic. This last article has been kept as a secret.

IVORY BLACK. Vide blacks.

KING's YELLOW, is a very bright yellow, used sometimes in oil; it is a preparation of arsenic. *Price 1s. to 2s. per ounce.*

LACCA, STICK-LAC, improperly called GUM LAC, is a red, brittle, transparent substance, brought from Malabar, Bengal, and Pegu, used in painting, making varnishes, &c.

It is a kind of comb, such as bees, and other insects, make. On being broke, it appears divided into many little cells, of a uniform figure, containing little bodies, or other parts, of the insects that produced the lacca. These little bodies are of a beautiful red; and, when broken, make a powder as fine as cochineal. It is most probable they are the embryos of insects, or, perhaps, their skins.

To obtain the fine red lac used by painters, boil the stick-lac in water, filtre the decoction, and evaporate the liquor to dryness over a gentle fire.

This being the first bright color obtained by this process from similar materials, has given the name of LACQUES, or LAKES, to several pigments not otherwise related to it.

LAKE, is drawn from several flowers; a yellow lake from flowers of juniper, a red lake from the poppy, a blue lake from the iris, or violet, &c.

The tinctures of these flowers are extracted by digesting them several times in aqua vitæ, or by boiling them over a stove fire in a lixivium of pot ashes and allum.

An ARTIFICIAL LAKE, is made of Brazil-wood, boiled in a lixivium of the branches of the vine, adding a little cochineal, turmeric, calcined allum, and arsenic; it is incorporated with the bones of the cuttle-fish, pulverized, and made up into little cakes, and dried.

To render it very red, add the juice of lemon; to make it brown, add oil of tartar.

Dove-colored, or columbine lake, is made with Brazil of Fernambuc, steeped in distilled vinegar for the space of a month, and mixed with allum incorporated in cuttle-fish bone.

YELLOW LAKE, is made by the following process: Take a pound of turmeric-root in fine powder, three pints of water, and an ounce of salt of tartar; put them into a glazed earthen vessel, and boil them over a clear gentle fire, till the water appears highly impregnated. Filtre this liquor, and, gradually, add a strong solution of roch allum in water, till the yellow matter is precipitated; this, filtered again, will leave the yellow matter behind. It is washed repeatedly with fresh water, till pure. In this manner may lake be procured from any of the tinging substances that are of a strong texture, as madder, log-wood, &c. but it fails in the more tender species as the flowers of roses, violets, &c.

A yellow lake is also made from broom-flowers, thus: make a ley of pot-ashes and lime; in this, boil over a gentle fire, fresh broom-flowers till the ley has extracted all their color: then boil the ley in earthen vessels, adding as much allum as the liquor will dissolve; empty this liquor into a vessel of clean water, and the yellow color will fall to the bottom. Let all settle, and decant it; wash the powder till the salts of the ley are washed off; then separate the yellow matter, and dry it in the shade.

Red Lake is at present seldom prepared from any other substance than scarlet rags, cochineal, or Brazil-wood. The best of what is commonly sold, is made of the color extracted from scarlet rags, and deposited on the cuttle-fish bone; it is prepared thus:

Dissolve a pound of the best pearl-ashes in two quarts of water, and filtre the liquor; add to this solution two more quarts of water and a pound of clean scarlet shreds; boil them in a pewter boiler, till the shreds have lost their color: take out the shreds, press them, and put the colored water yielded by them to the other: in the same solution boil another pound of shreds; and likewise a third, and fourth pound. While this is doing, dissolve a pound and a half of cuttle-fish bone in a pound of strong aqua-fortis, in a glass receiver; adding more bone, if it produces any ebullition in the aqua-fortis. Pour this strained solution gradually into the other. The crimson sediment deposited by the liquor is the LAKE: pour off the water, and stir the lake in two gallons of hard spring water, and mix the sediment in two gallons of fresh water; repeated four or five times. If no hard water can be procured, or the lake appears too purple, half an ounce of allum should be added to each quantity of water, before it is used. Having freed the lake from the salts, drain off the water through a filter, covered with a worn linen cloth. When it has been drained to a proper dryness, let it drop through a convenient funnel on clean boards, and the drops will become small cones or pyramids, in which form the lake must be suffered to dry.

RED LAKE may be prepared from cochineal, by gently boiling two ounces of cochineal in a quart of water; filtre the solution, add two ounces of pearl-ashes dissolved in half a pint of warm water, and filtered. Dissolve cuttle-fish bone as in the former process: and, to a pint of it add two ounces of allum dissolved in half a pint of water. Put this mixture gradually to that of the cochineal and pearl-ashes, as long as any ebullition appears to arise; and afterwards proceed as above.

A beautiful RED LAKE may be prepared from Brazil-wood; by boiling three pounds of it, during an hour, in a solution of three pounds of common salt in three gallons of water; and filtering the hot fluid through paper: add to this a solution of five pounds of allum in three gallons of water. Dissolve three pounds of the best pearl-ashes in a gallon and a half of water, and purify it by filtering; put this, gradually, to the other, till the whole of the color appears to be precipitated, and the fluid be left colorless. But if any appearance of purple be seen, add a fresh quantity of the solution of allum, by degrees, till it becomes scarlet: treat the sediment as before. If half a pound of seed-lac be added to the solution of pearl-ashes, and dissolved in it before its purification by the filtre; and two pounds of the wood, and a proportionate quantity of common salt and water, be used in the colored solution, a lake will be produced that will stand well in oil or water, but it is not so transparent, in oil, as without the seed-lac.

The lake from Brazil-wood may also be made by adding half an ounce of anotto to each pound of the wood. The annotto must be dissolved in the solution of pearl-ashes.

LEAD, Black, is used to make pencils; not being fusible, it is cut into form. It is a mineral *sui generis*.

*Price in powder 1d. per ounce. Pencils 6d. each.*

Red Lead, or MINIUM, is a calx of lead, of a vivid orange colour, or yellowish-red; which colour it acquires by the very slow calcination to which it is exposed. It is chiefly brought from Holland.

This colour would be very valuable, if it was durable; but, like every preparation of lead, it is liable to become black. It is used in water colors, and requires a moderate proportion of gum-water, and to be frequently stirred up while using, as its weight inclines it to settle.

*Price 6d. per ounce.*

White Lead is kept in the colour-shops under the name of *Nottingham*, and is used in oil for coarser purposes.

*Price in bladders 3d. each.*

LITMUS, is a blue pigment, procured from archil, by adding to the archil (previously bruised by grinding), quick-lime, and spirits of urine; the mixture being evaporated becomes at length of a due consistence. It is chiefly brought from Holland. This colour is liable to change towards crimson, by the least approach of acids.

Litmus may be thus prepared for use: boil an ounce in a pint of small-beer wort till it acquires a proper colour; then pour off the liquor, and let it cool: by degrees it will become solid. This may afterwards be liquified by water, for use.

LOGWOOD furnishes an excellent purple tincture, to obtain which some proceed thus:

Boil together Brazil-wood and logwood, till the liquor is of a due colour. More logwood makes it more purple; more Brazil-wood inclines it to red. Or thus:—

Boil two ounces of logwood in three pints of water; it is now brown, but by the addition of roch allum one ounce, it becomes purple.

MASTICOT is lead gently calcined till it becomes more, or less, yellow.

METAL, DUTCH, is used where genuine gold would be too expensive. It is kept in leaves, in books.

*Shells* 1*d. each.*

MILINUM, famous for being the only white of the ancient artists, is a fine white marley earth of a compact texture, and remarkably light. It is found chiefly in the East, or the Levant.

Since white lead is so very deceitful, especially in water-colours, might not this, or an earth of the same species, well supply its place?

OCHRES are an extensive genus of earths. The most common are, yellow and red: but there are likewise blue, brown, and green, ochres: and of these several distinctions. Dr. HILL describes of red, eleven sorts; of yellow, the same number; of blue and green, one each, and of black two.

There are several kinds dug up in England, and it is probable, more might be found on examination.

They are *cheap* colours; from one penny to twopence per ounce, and are divided in the color-shops into yellow, brown, red, roman, stone, bright, &c. Their hues are varied by burning.

OILS are very principal objects of a painter's care, being so intimately mixed with the colors; on which they have unquestionably much influence.

OIL, LINSEED, is used to colours of deep shades, but injures the lighter: it is sometimes rectified by exposing it in a bladder to the sun, &c. which renders it more transparent. Some painters reject it totally, notwithstanding such rectification, which they regard as of little use.

*Price 6d. per pint.*

OIL, NUT, is very much in use; it is not so subject to change as linseed oil is.

*Price 2s. per pint.*

OIL, POPPY, is by some preferred above all, as being very clear and transparent.

*Price 4s. per pint.*

DRYING OIL, is linseed oil boiled with sugar of lead, litharge, or red lead, &c.

As these substances are by no means of any benefit to the oil, we advise a very cautious use of drying oil. In general, it is used to pictures painted in haste, or in damp weather, &c. which we have remarked to be deficient in durability.

*Price from 7d. to 2s. per pint. Small bottles of oil may be had at 3d. or 4d. each.*

The following has been recommended as a useful recipe to make a strong and colorless drying oil:

Take of poppy, nut, or linseed oil, one quart, put it in a deep glass bottle; put to it one pound of the best litharge in the gross; shake these well together two or three times a day for a week, then let it settle clear, and pour it off for use, taking care that none of the tallow-like grease thrown down by the litharge comes off with it, it will be found a good strong drying oil, with very little alteration in the color; the longer it is on the litharge the stronger it will be. The oil designed for grinding up the white, &c. must have only half the quantity of litharge, and be only half the time upon it, with the same shaking, &c.

*N. B.* The litharge will do several times, after draining the grease from it.

ORPIMENT, is a color, whose properties, as we have before observed, require great care in the using of it: and, in fact, rather prohibit it.

PALLETTES, are of various shapes, held on the hand while painting, by passing the thumb through a hole near the front. Their use is to contain the colours, which are to be applied to the canvas.

*Price from 8d. to 2s. 6d. and 3s. each.*

Pallette-knife is a thin, well-tempered blade, to grind and mix colors, &c. on the pallette.

*Price 9d.*

PAPER, various sorts, for various uses, and of various prices; which are best known at the stationer's.

PINKS, are a class of colours of several hues.

Brown Pink, is a transparent colour, used in oil, and pretty much to glaze with.

It is the tinging part of some vegetable, of a deep yellow, or orange color, precipitated much in the manner of *lakes*; it gives a deep color if good. *E. gr.* It is procured from Avignon berries, by boiling them with fustic wood in chips, and pearl-ashes, equal quantities, in a tin boiler; strain the tincture when strong enough, and add alum-water. When filtered, the substance is the color.

*Price* 1*s.* *to* 1*s.* 6*d.* *per oz.* *in bladders* 6*d.* *each.*

Dutch pink, is made by boiling Avignon berries one pound, and turmeric root four ounces; strain it; add alum one ounce, and boil it, till evaporated to a quart. Prepare in the mean time four pounds of chalk, by washing it, and let it dry; grind the chalk and tincture together, and dry the color.—It should be a full gold-colored yellow, and very bright.

English pink, differs from Dutch pink, only in the greater proportion of chalk.

Rose pink is procured exactly in a similar manner, only changing the Avignon berry, for Brazil-wood; it is a mighty pretty color, but fading.

*Price* 2*d.* *per oz.*

PENCIL. Under this title we shall notice the various sorts mostly in use.

Camel's-hair pencils; to choose this kind of pencils, draw them through the lips, moistening them a little; those are good which terminate in a true and complete point. *Price* 1*d.* *to* 2*d.* *each.*

Fitch pencils are used, by some who wish for a smoothness in their pictures, to scumble the colors, after their being laid on with a camel's-hair pencil, and to drive them into each other; while those who wish to impart a bolder appearance to their works, paint wholly with fitches.

*Price* 2*d.* *each.*

Tools are a larger kind of pencils, not inserted into a quill, as the foregoing, but bound round a stick, and stronger in their nature. Some painters use them constantly.

*Price from 2d. to 1s. each.*

Badger tools are the largest in common use, and are longer in the hair than the former.

*Price from 8d. to 2s. each.*

Besides these, there are other kinds of pencils—such as, those for shipping painters, very long in the hairs, and slender; useful to insert the ropes, &c.—Those for miniature painters, very delicate and small, &c.

PICTURE-CLOTHS, are of several sizes, enlarging progressively, and are kept in the shops at the prices of *6d. 8d. 10d. 1s. 1s. 3d. &c.*

The regular sizes commence at

Kit-cats, 3 feet high, by 2 feet 4 inches wide.

*Price 2s. 6d.*

Three-quarters, 2 feet 6 high, by 2 feet 1 wide.

Half-lengths, 4 feet 2 high, by 3 feet 4 wide.

*Price 5s.*

Bishops half lengths, 4 ft. 8 high, by 3 ft. 9.

*Price 8s.*

Whole-lengths, 7 feet 10 high, by 4 feet 10 wide. They may be made yet larger if bespoke.

*Price 1l. 2s.*

A sort of ticking is made by Mr. W. Middleton, of St. Martin's Lane (colorman to artists, and who furnishes the necessary implements to artists), at the following prices:

Three-quarters, price 4 or 5s.

Half-lengths, price 7s.

Whole-lengths, price 26s.

In general, landscape-painters choose their cloths of a smooth surface. Portrait-painters choose a very thin priming. Perhaps cloths are yet better without priming.

PRIMING is a colour laid on the cloth, &c. previous to those which are to form the picture, and should be chosen of a tint rather light than dark.

PLASTER OF PARIS is a very useful commodity in the arts, as it not only receives impressions from copper-plates, &c. but, being cast into molds, affords copies of any piece of sculpture whatever, at a very reasonable rate; and, perhaps, nothing more contributes to the acquisition of knowledge in design, than a careful study of excellent Plasters; since they are, in some respects, superior even to a living model, always retain their situations and attitudes, and greatly assist an artist in the projection of shadows, &c.

Plaster of Paris is dug out of quarries in a substance like a stone, and is then termed *crude:* To prepare it for use, the stone is calcined thoroughly, then pounded and very finely sifted.

This powder mixed with water, quickly *sets*, or hardens into a solid consistence; and, when setting, increases in bulk, which property renders it so highly and singularly applicable in forming casts, &c.

*To take an impression off a plate, by means of plaster of Paris,* nothing more is requisite, than after having prepared the plate with ink, and cleaned the surface, to mix the plaster with water, and pour it on the plate, in a few minutes it will dry, and easily part from the copper, extracting the ink with it.

Casts are taken from a mold, previously well oiled, and thereby rendered impervious to the water with which the plaster is mixed. The plaster in its liquid state being poured into the mold there sets, and takes the form of the mold.

Plaster will sink to the bottom of a quantity of water, and will harden even there. After having been once used, it has lost its valuable properties, and no grinding can restore them. Being very long kept in powder injures it.

RED, LIGHT, is of the ochre kind, and very powerful, it is much used by some painters, even in flesh.

*Price 2d. per oz. Bladders 3d. each.*

RED, BROWN, is kept in bladders at 3d. each.

RED, INDIAN, vide *Indian Red.*

RED, VENETIAN, is a cheap color, used to print copper-plates in imitation of red chalk. It should be finely ground. Mixed with black it forms a brown.

SAFFRON affords a yellow orange-colored tincture, to obtain which, it need only be steeped in boiling water in a tea-cup.

As it is probable that many vegetables, if treated in the same manner as saffron, might afford permanent colors, we shall transcribe from the Philosophical Transactions an account of the method of drying it.

The styles, or chives, being separated from the other parts of the plant, are dried on a kiln of a proper construction ; over which they lay a net-work of iron-wire, or a hair-cloth, and over this five or six sheets of white paper; upon which they spread the saffron two or three inches thick. They cover this with other sheets of paper ; over the whole they lay a coarse blanket, five or six times doubled, or a canvass pillow filled with straw; when the fire, which is made of charcoal free from smoke has warmed it, they lay on the whole a board, having a large weight. When the chives have been sweated and dried, for about an hour, they turn the papers and saffron cakes, and treat the fresh side as the other. The cakes are repeatedly turned, till thoroughly dry, which usually takes about twenty-four hours. English saffron is the best in Europe.

SAP-GREEN is furnished by buckthorn berries, which being gathered when ripe, are bruised and put into a brass kettle, with some pounded alum, where they are suffered to remain for several days; they are then pressed, and the liquor hung up in a bladder to dry and harden. This is afterwards dissolved in water or wine, (Canary is said to be the best to preserve it from starving), this again consolidated, is sold in the shops.

*Price from 8d. to 1s. per ounce.*

TERRA SINOPICA, by many called BLOOD STONE, is an earth of a purple color, varying in tone, and depth of color, found in plenty in the Jerseys in America, and probably elsewhere. Its color renders further acquaintance with it highly desirable. Its texture is close and compact: its weight considerable. It is not very hard, melts slowly in the mouth, is perfectly pure and fine, and retains its color in the fire. Why should it not be brought into further use?

TERRA DI SIENNA, like other earths, is denominated from the place where it is native. It is of a warm brown color, pretty much used in landscape, in oil, for roads, buildings, &c. as well burnt as unburnt.

*Price raw 4d. per oz. bladders 6d. burnt 6d. per oz. bladders 6d. each.*

TERRA VERTE, is found in the earth, not in strata, but in large lumps. It is fine, regular, and smooth; when scraped, and the finer parts separated, it is ready to be ground in oil for use; it makes the best standing color of any simple green; but is a tender color, easily overpowered by any stronger color.

*Price in bladders 3d. each.*

An earth is dug up in Mendippe Hills, which is very closely allied to *terra verte*; why should it not be examined and tried?

TROY WHITE is a native chalk, found near Orleans in France, which is finely powdered, washed, and tempered for use.

Artificial TROY WHITE, called also Spanish white, is chalk washed repeatedly, and its finer particles united to alum-water, frequently stirred, then filtered and dried; it is used sometimes in water-colors.

TURPENTINE. Oil, or spirit, of turpentine is used in oil painting, as a drier to the clearer colors, and to fit some colors for use in spirits of wine; to clean pencils from their colors, when they are to be quitted, &c.

*Price 6d. or 8d. per pint—sometimes much more.*

Colors ground in spirits of turpentine, after being thoroughly dry, may be used either in oil, or in water.

TURMERIC ROOT is in form not much unlike ginger: as it grows old, it becomes brown. To extract a yellow tincture from it:

Put two ounces of proof spirit, and one ounce of water in a phial, with two drachms of powdered turmeric root; let them stand three or four days, shaking them often. It is brighter, and cooler, than the tincture of Avignon berry.

TURBITH, or TURPITH, MINERAL, is a yellow precipitate of mercury. It is of a great body, like vermilion, a very bright, true, and lasting yellow; works in oil or water; is cooler than king's yellow, and not so bright. It makes a good green; it must be previously well ground.

VARNISH is used to give a gloss, and lustre, to works. Also to defend them from the weather, dust, &c.

There are divers kinds of *varnishes*; some of the principal are as follow:

AMBER VARNISH is prepared in the following manner; put four ounces of amber into a crucible, and melt it with a small degree of heat; pour it out upon an iron plate; when cold, reduce it to powder, and add to it two ounces of drying oil, *i. e.* linseed oil, thickened by being boiled up with litharge, and one pint of oil of turpentine; dissolve the whole together into a liquid *varnish*.

This simple *amber varnish* is of great use for many purposes, and is said to be the basis of the fine *varnishes* which we see on coaches, and might be applied to pictures with good effect.

Copal Oil Varnish, called in France *vernis Martin*, is made by pouring into a strong well-glazed earthen pot, in shape resembling a chocolate pot, and in size large enough to hold about a gallon, and made warm, four ounces of Chio or Cyprus turpentine, and when this is dissolved, eight ounces of finely powdered amber; mingling them well, and setting them on the fire for a quarter of an hour: take off the pot, and pour gently into it a pound of copal, finely bruised, but not powdered; stir the mass, and add four ounces of Chio turpentine, and a gill of warm turpentine oil; then set it on a brisk fire for about half an hour, and taking it off, stir the contents well, and add two ounces of the finest and whitest colophony. Let the pot be put on a very brisk fire, and remain till the whole is dissolved, and become as fluid as water; let it be removed from the fire, and remain for a few minutes, and then gradually pour in twenty-four ounces of poppy, nut, or linseed oil, made drying and boiling hot, and stir the mass with a deal stick. When the gums and oil are thoroughly incorporated, set them over the fire for a few minutes, still stirring them about, and let them boil once up; and having taken off the pot, pour into it a quart of hot turpentine; stir them together, and give them one boil up; take off the pot, and pour into it a pint more of hot turpentine, still stirring it well. If the gums are thoroughly melted, and well incorporated, the *varnish* is made; which, being cool, is strained through a close cloth into another vessel, and if it be too thick, thinned with oil of turpentine, till it becomes of the consistence of linseed oil: strain it a second time, bottle it for use, and let it stand a month, at least, before it is used. This *varnish* is used for coaches, cabinets, &c. as well as for pictures. Used also sometimes for prints.

*Price* 1*s. or* 1*s.* 4*d. a phial of two ounces.*

*A finishing varnish for paintings in oil*:—The finest and clearest coach varnish, made of copal one quart, (the Birmingham varnish is yet better, there being no oil in it) put it into an earthen pipkin, set it over a very gentle fire, it need not boil, if pretty hot it is enough; at the same time set another pipkin over the same fire, containing three half pints of turpentine and half a pint of strong drying oil mixt together; when hot take both pots off, and pour the varnish in very small quantities into the turpentine and oil, every time replacing the pots on the fire to preserve the heat; repeat this several times, a dozen at least, till the whole is mixt, keep it continually stirring to incorporate them well; take it from the fire as soon as possible, lest it brown the varnish.

N. B. Were they put together cold, too hastily, or in too large a quantity at a time, the copal would be precipitated to the bottom.

Let it stand to clear, well stopped in a bottle for use. So much oil being thrown into it, prevents its cracking, and makes it more proper for oil paintings; it is long in drying, and must be kept free from dust; after two or three days it sets, and retains no stickiness, as mastic, &c. always does.

Very small pictures may be neatly painted with this varnish alone.

This varnish hardens so strongly on the picture, that it cannot be taken off again, but must be painted over if any alterations are intended.

A varnish that may easily be removed is made of isinglass diluted with water, with the addition of one-fourth or one-fifth the weight of the isinglass, of sugar, or honey. A sponge and hot water will readily remove this from the picture, &c. over which it is used.

MASTIC VARNISH is made by putting five ounces of powdered mastic into a proper bottle, with a pound of spirit of turpentine, and setting them to boil in *balneo Mariæ,* till the mastic be dissolved, and straining the solution through flannel. This *varnish* may be converted into a *varnish* for painting with, by grinding one ounce of gum anime on a stone with water, till it becomes an impalpable powder; then drying it, and grinding it again with half an ounce of turpentine, and afterwards with the proper colors, and moistening it with the mastic *varnish,* till the mixture be of a due consistence for working with the pencil. It must then be kept in phials or in vessels, and diluted, as there may be occasion, with spirit of turpentine.

*Price 4s. or 5s. per pint.*

Others recommend the following mastic *varnish,* as very useful for glazing:—Twelve ounces of pure mastic put to one quart of spirit of turpentine in a glazed earthen pot, (for safety have a large iron heater made nearly red hot, on this set the pot in some open place, where free from danger) let it boil very gently about a minute, it is easily dissolved even without boiling; keep stirring it with a stick, when melted set it by to clear itself. Keep it in a bottle well corked for use.

### *To make the* VARNISH *recommended by* MENGS.

To two ounces of the finest mastic in powder add four ounces of *aqua di Rhasa*, mix them in a glazed pot, which must be set in a pan of boiling water, and there continue over a slow fire for one, two, or three hours, as shall appear necessary to bring it to a proper degree of consistence for drying in a short time after it is laid on the picture. This varnish may also be prepared by being dissolved in the sun. In using this varnish great care must be taken that the picture is quite dry, and has been painted five or six days at least, even then it will be proper to let it stand for a short time, either before the fire or in the air, but the varnish must not be laid on before the picture is quite cold. After the picture is varnished, it will be proper to let it lie for a day or two free from dust, after which you may work upon, re-touch or re-paint it as often as you shall think necessary: but it will be proper to re-varnish the piece when you have completely finished it.

N. B. *Aqua di Rhasa* is spirits of turpentine.

### *To make white or re-touching* VARNISH.

Mix one ounce of gum-mastic with half an ounce of nut oil, and a quarter of an ounce of spirit of turpentine, dissolved in the same manner as in Mengs' mastic varnish.

VARNISHES *for preserving paintings.*

For this purpose some have recommended the following composition : viz. half a pound of gum sandarac ; an ounce and a half of Venice turpentine ; three quarters of an ounce of each of the gums anime and copal ; half an ounce of mastic ; benzoin, gum elemi, and white resin, each two drachms, and one pound of rectified spirit of wine. The benzoin and gum anime powdered, are put with the Venice turpentine into a phial, with eight ounces of the spirit ; the copal and resin powdered are also put in a phial with six ounces, and the powdered gum elemi with two ounces of spirit of wine. The several phials are frequently shaken, till the gums, &c. are dissolved ; then the solutions are strained through a fine linen cloth into one bottle, and when the mixture has stood some days, it is decanted off clear, and kept in a separate bottle for use. Some have substituted sarcocolla for the copal.

Another composition is formed, by dissolving mastic and sandarac, grossly powdered, of each six ounces, and Venice turpentine half an ounce in a quart of highly rectified spirit of wine, and straining off the solution. If it be required harder, an equal weight of the gums anime and copal may be added, and the quantity of spirit of wine doubled. In the use of this *varnish,* the painting should be thoroughly dry, and it should be spread very gently with the pencil. The *varnish* should be laid on in a very warm place, or the picture itself warmed to a moderate degree, in order to prevent the *chilling* of the *varnish* : in which case another coat should be added. And, indeed, two or three coats are necessary to preserve the painting, and to bring out a due effect of its colors, if they are in that state called *sunk in*, occasioned by the attraction of the cloth on the oils mixed with them.

An oil of turpentine *varnish* may be made by grossly powdering mastic and sandarac, of each four ounces; two ounces of white resin, and sarcocolla, anime, copal, and olibanum, of each one ounce, and putting them into a phial with two pounds of oil of turpentine, stopping the phial lightly, and placing it in any gentle heat, so that the mass may not boil, and straining off the solution for use.

Or, a *varnish* more simple, and equally good, may be made by powdering two ounces of sandarac, mastic and olibanum, of each an ounce and half; or three ounces of mastic and Venice turpentine half an ounce; and dissolving them in half a pound of oil of turpentine, and proceeding as before.

WHITE VARNISH is usually made of gum sandarac and gum mastic, dissolved in spirits, left to settle two days; then strained through a linen cloth, and, after standing some time, the clear poured off, and bottled for use.

The more curious artists dissolve the two gums separately; and, having made a separate *varnish* of each, mix them occasionally, as their work requires a stiffer or a softer *varnish*.

But for the *best white varnish* more gums are required; viz. Venice turpentine, gum copal, elemi, benzoin, anime, and white resin.

VARNISH FOR PRINTS :—Take isinglass four oz.: separate it into small pieces, boil it in a quart of brandy, or other strong spirit : when it becomes the consistence of a strong glue, by being a little exposed to the air, it will answer the purpose. With this glue, while hot, wash over the print as quick as possible, and let that stand for a day or so, to dry well; wash it over again in the same manner, and afterwards brush it over at such a distance from the fire that it may not blister; do this also, two or three times. Varnish it with white varnish, and let it stand; afterwards varnish it again. If it should at any time be soiled by flies or the like, you may wash it with a sponge and water, to clean it.

The print should be previously *mounted:* i. e. pasted on a cloth, and secured by a straining frame.

VERDITER ought to be procured from the *lapis armenus*, prepared by grinding and washing; but this kind is very rare.

VERDITER is obtained by adding chalk to a solution of copper in aqua fortis. It is prepared by the refiners of silver, which metal is thought to assist the copper. Some say pearl ashes would produce a blue superior to chalk. When good, it is a cool, full blue, but must not be greatly trusted to for durability, either in oil, or in water.

*Price per ounce 6d. or 8d.*

VERDIGRIS is a kind of rust copper, *i. e.* copper corroded by vegetable fermentation into a blueish-green substance. Generally, it is obtained by corroding plates of copper by the vinous acid. The crystals of verdigris distilled, make a very good

blue-

blue-green tincture, which mixes well with yellow for a green ; or, if dissolved in the juice of rue, makes a green at once ; with a decoction of logwood it strikes a black, which diluted, is a fine blue.

*Price of distilled Verdigris per oz. 6d. or 8d.*

VERMILION, natural, is found in some silver mines in the form of sand: this requires good grinding.

VERMILION is a mercurial production, made of artificial cinnabar, ground up with white wine, and whites of eggs repeatedly ; the more it is ground, the finer and paler it becomes.

*Price from 8d. to 2s. 6d. per ounce.*

ULTRAMARINE is procured from the lapis lazuli, by a tedious process of calcination, grinding, &c. It is the first and prince of blues, warm, rich, and noble—but very dear.

*Price from three to ten guineas per ounce.*

King Charles I. presented to Mrs. BEALE, the paintress, 500l. worth, which he held in his hand.

ULTRAMARINE-ASHES are of a similar nature. These are usually sufficiently good for most purposes to which they may be applied.

*Price from 18s. to 2l. per ounce.*

UMBER, is a dark brown earth of the ochre kind ; when burnt, it is considerably deepened in its tone ; it is used chiefly in oil ; is *cheap* in its price.

*Bladders 3d. each.*

NAPLES YELLOW was formerly thought to be a species of yellow ochre ; it is very beautiful, of a bright yellow, of a loose, porous, spongy, and shattery texture : remarkably heavy, of a dusty surface ;

gritty to the touch, breaks easily between the fingers, and stains the hands; adheres but slightly to the tongue; ferments briskly with aqua fortis.

It has lately been demonstrated to be the production of art: on mixing together intimately twelve ounces of ceruse, or white lead, one of alum, one of sal ammoniac, and three ounces of diaphoretic antimony, in an unglazed earthen pot covered over; and exposing the mixture to the heat of a moderate fire, during seven or eight hours, a substance is obtained, possessing all the properties of Naples yellow.

It makes in oil a very useful, mild, and lasting color: it should be very well washed for use in water colors. *Price 6d. per ounce. In bladders 6d. each.*

YELLOW BERRY, *vide* Avignon berry.

YELLOW is obtained from the plant Celandine, by infusing it in water, and pressing it gently; then boiling the liquor with alum.

Also, from the roots of Barberries cut, and put into a strong ley of pearl ashes: From the roots of the mulberry tree; and probably from many other roots.

Zedoary root affords a fine yellow, by boiling an ounce in a quart of water, till the infusion is highly colored, then strain it. It is as bright as saffron, and cooler, being excellent for painting of flowers.

ZINK, has lately furnished an elegant white, which, if all said of it by the French, who prepare it, be true, is a noble production; as it stands perfectly, both in oil and water. It is not yet used in England—it is said to be deficient in *bearing a body.*

The foregoing list contains those colors which are generally adopted into use: every master has some method peculiar to himself in their management, as well as a certain set of colors which may be termed his *favorites*. Some, indeed, so perpetually resort to the same combination of colors, that their performances strongly evidence the mannerist; a character to be avoided by all who desire excellence.

The *minutia* of many articles we have omitted, supposing the leading ideas to be sufficient: and the same in the preparation of certain colors—no doubt, by similar methods many additional pigments might be procured.

In marking the prices to many articles, we suppose we have done service to those who choose first to count the cost: it may perhaps obviate objections in the minds of some, to observe how reasonable are the principal requisites for attempts in most branches of the arts.

We shall now proceed to offer a few hints on the management of these materials; advancing from the simple to the more complex methods of application, in the following order:

INTRODUCTORY REMARKS ON THE USE OF COLORS IN GENERAL.

## WATER COLORS.

OF COLORING OR WASHING MAPS, &c.
OF COLORING PRINTS.
OF TINTING DRAWINGS.
OF PAINTING IN WATER-COLORS.
OF PAINTING IN MINIATURE.

## CRAYONS.

OF CRAYON DRAWINGS FINISHED WITH CHALKS.
OF CRAYON PICTURES.

## OIL COLORS.

OF BACK-PAINTING PRINTS.
OF PICTURES IN OIL.
OF CLEANING PICTURES.
OF TRANSFERRING PICTURES.

## ENGRAVING.

OF ETCHING.
OF ENGRAVING IN STROKES.
OF ENGRAVING IN CHALKS.
OF ENGRAVING IN MEZZOTINTO.
OF AQUA TINTA.
OF PRINTING IN COLORS.

## SCULPTURE.

OF MODELLING.
OF SCULPTURE.

# REMARKS

INTRODUCTORY TO THE

# USE OF COLORS IN GENERAL.

BEFORE we proceed to explain the use of colors, and the materials for practice, it may be proper to premise a few observations, as introductory to the application of them.

In general the more simply, and distinctly, colors are used the better; they are not only more easy to work, but they are also brighter, and more durable. Of colors produced by composition, such as green, and purple, those tints which contain the fewest ingredients are usually to be preferred.

Some colors very necessary in painting in oil, are entirely useless in water; others, of great service in water, agree not with oil; and some which in appearance promise well in other manners, are found deficient in effect and durability, when used in either.

Few colors are, in their natural state, fit for immediate use, but must undergo previous preparation, according to their texture or temper—of these preparations, the principal are WASHING and GRINDING; but some require CALCINATION.

## OF WASHING COLORS.

Colors are WASHED, by being mixed with, and strongly stirred about in, a proper quantity of fair water, till the water having dissolved them, is thoroughly colored by them; if the surface of the water appear greasy, take off that scum; then pour the colored water into a clean bason, leaving the grosser sediment behind: the water thus poured off, will in a little time deposit a quantity of color. This operation may be repeated, till the color obtained is sufficiently pure, which appears by its fineness, and its brilliancy. The use of vinegar, of milk, or of other liquids, is occasionally adopted by some artists, for certain colors.

## OF GRINDING COLORS.

Colors are ground by means of a large muller, on a flat stone: this operation requires strength and care; they are occasionally collected together, as the muller spreads them, by means of a large knife; the oil, or other vehicle, with which they are ground, being added as wanted.

In grinding colors the motion of the muller should not be too swift, but gentle, lest the color by being heated, lose part of its lustre; especially, if it be a color of no great body. In grinding white, observe to cease, before it becomes greasy, or dirty.

Colors are liable to injury by being ground on a stone not thoroughly cleaned from the color which preceded: many persons who are curious, grind their own (at least the finer colors) that they may depend on their purity.

The **Grinding** of colors should be continued, till they are capable of uniting so intimately with the vehicle they are compounded with, as to seem only a liquid of that color, (which is termed bearing a body): and those colors which permit this, are always most agreeable in using; whereas, some will not embody, but are apt in working to separate, and disperse. This remark chiefly concerns colors intended for oil; many of the best water colors are fit for use by being dissolved in gum water.

Colors ground in oil can be used only in oil. Oil colors kept too long grow *fat*, and become useless.

Colors united with **gums**, for the purpose of water colors will not readily mix with oil.

Colors ground in **spirits** may be preserved after grinding, and used either in oil or in water, being capable of mixture with either.

## OF CALCINING COLORS.

Some colors require **calcination**, to render them fit for use; some are burnt, merely by putting them in the fire till thoroughly red hot; others, are rather dried than burnt, being placed in an iron ladle over the fire, and kept there, till the smoke they emit ceases. Ivory, is burnt between two crucibles, well luted together, and covered with coals.

## OF TEMPERING WATER COLORS.

The colors being free from those impurities which are natural to them, to TEMPER them, take a small quantity of any color, put it into a clean shell, or cup, &c. add to it a few drops of gum water, and incorporate them, by working them about the shell; let them dry, and when dry, touch the color with your finger; if any of it comes off, it requires a stronger gum water; if the color shines, and glisters, when dry, the gum water was too strong, and must be qualified by lowering it with fair water. Always let it dry before you use it; then, having wetted it, take a proper quantity in your pencil, transplace it on the pallet, and mingle such colors as the subject requires.

GUM WATER is made by dissolving a quantity of *gum arabic* (the clearer the better) in fair water. The strength of the gum water required must determine the proportion of the ingredients. Take a quarter of an ounce (or, perhaps, half the quantity) of gum arabic, and pour boiling water on it in a teacup, when dissolved it is fit for use. A little coloquintida added to the solution, will prevent flies from injuring the work if exposed.

The WATER with which colors are united, is of more consequence than is generally imagined; and, unless limpid and pure, contributes to their fading. Flake white, used with water containing particles of iron, soon becomes black, and disagreeable. To remedy this evil, the curious use only distilled water, which is easily obtained from a common tea-kettle, by condensing the steam; which, if the kettle be not too full of water, may be done, by binding round the spout, a cloth wetted in cold water; or, by the addition of a tin spout to fit the kettle, wetting, and cooling, the cloth occasionally. There are mineral waters, &c. which produce very singular effects with some colors.

But beside the colors which require the use of gum water as above described, there are several useful colors (extracted chiefly from vegetables) in the form of tinctures; to obtain which, the customary method is, to boil the ingredients, with the addition of alum, in a quantity of water, till the water has acquired a sufficient strength of color: sometimes the mixture is boiled yet stronger; and sometimes, but not often, the sediment of the mixture after boiling is of use.

To use a color in tincture, (generally called a WASH COLOR) try first whether its strength be what your subject requires; if it be too deep, it may be lightened by the addition of fair water; if too light, it may be deepened, by setting a saucer of it to simmer over a gentle fire, till it acquires the strength desired. The watery part may, by this means, be nearly, or even totally, evaporated. Red Brazil wash, for instance, will hereby take a solid form, and afterwards work up pretty enough.

BODY COLORS (as they are called, to distinguish them from *washes)* may be *lightened* by being diluted with water, but cannot be *deepened* beyond the natural state of the original material; to shadow which, when used of its full color, recourse must be had to a darker color, of a similar species.

Care should be taken to keep the drawing, &c. flat, and free from sinkings, lest the colors, if thin, should run to those parts, and there make patches of darks, &c.

If the paper will not readily take the colors, a little fish-gall, or ox-gall, mingled among the colors, will help them.

*To prevent colors from sinking in*, take roch alum two ounces, and boil it in a pint of spring water; wet the back of the paper with a sponge dipped in the water while warm. Some use starch applied at the back. A yet stronger mixture, which will prevent the color from sinking not only on paper, but likewise on sattin, is made, by boiling isinglass in water, brandy, or spirit of wine, till the liquor is strong, and clammy, then, after your outlines are drawn, wash them over with this solution while hot. Repeat it if wanted.

## OF OIL COLORS.

A principal advantage of oil colors is, that after they are dry they afford a constant opportunity of being retouched, or even changed, either in whole, or in part; thus, black may be re-colored white, or brown, blue, &c.; but, though this be undoubtedly a great advantage, yet it is only to be used when required by necessity: for, the under color, if allied to the superficial, promotes both force, and harmony; and it sometimes happens, that if the under color be cold, and powerful, it tends to injure the tone of the upper.

Oil colors, are not, in usual practice, heightened, by being diluted with oil, as water colors are with water; but, by being mixed with any color, or pigment of a lighter tone—as, light red upon dark red; yellow upon light red; white upon yellow, &c. or, simply white. But if a part should be heightened beyond its due force, it may be lowered, by diluting some similar color with oil, and (as it is termed) GLAZING it over till it is brought to the tone required. Glazing is sometimes used on a more important, or at least a more extensive plan; as when great richness is wanted in some particular color, as crimson, &c. after having painted and finished it, as highly bright as he can, the artist glazes it over with a coat of lake. Sometimes this is repeated, and the lights re-touched; and instances have been, where an artist has glazed a bright white into a crimson, by means of carmine and lake, &c.

Glazing is best performed with colors naturally transparent, such as lake, &c. but, after all, it is not applauded by those whose skill enables them to produce equal effects without this practice.

Those painters who have attained nearest to a just representation of nature, have usually composed on their pallettes, a great number of tints related to the subject on which they were about to employ them; and, by mingling these tints, they have approached nearer to truth, than those who mingle the secondary colors of the pallette in their pencils, and immediately apply them to the cloth; for by this latter manner (which yet is too common) the colors are not only less incorporated, but they are apt to become dull, and dirty.

The usual way of painting in oil, is to lay on the colors with one pencil, and then soften them into each other, with a clean tool: this is termed *scumbling*; but whether scumbling be really beneficial to a picture, is much doubted; certainly where strength is desired, it may well be omitted, as also in the finishing touches.

A pencil for each color is necessary, where clean tints are desired.

The smell of oil colors would not be bad (as it sometimes is) were the oil of the best quality.

Colors are ranged on a pallette, beginning with white on the front, then yellow, &c. according to the darkness of the color, ending with black.

## OF DISTEMPER COLORS.

Colors incorporated with SIZE, are useful, in works required to be free from glistening that they may be seen to advantage in all situations, such as the scenes of a theatre, &c. but they are not used for pictures. Of late, fashion has introduced them into apartments, instead of wainscotting, &c.

They are likewise used in FRESCO-PAINTINGS in warm countries, but these are very rare in Britain.

Fresco-paintings are performed on the mortar of a wall while wet, and dry with it; which circumstance totally prohibits the use of oil.

The incorporation of colors with WAX is very rarely practiſed: for the method of procedure, *vide* ENCAUSTIC.

## OF RANKING COLORS.

Colors are ranked as follows, WHITE, YELLOW, ORANGE, RED, PURPLE, BLUE, BLACK. WHITE, and BLACK, are the extremes of color; yellow is the color next to white; then green; then blue; green is compoſed of a mixture of yellow and blue; orange of a mixture of yellow and red; purple of a mixture of red and blue; theſe compound colors admit an infinity of tints, as they incline moſt to either of the primary colors of which they are compounded.

Some perſons divide colors into dark, and light; including among the firſt, black, umber, biſtre; among light colors, white, and thoſe which approach it.

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Having thus given ſome general hints on the nature of colors, by way of introduction, we proceed to notice, more particularly, the various manners of their applications.

## OF COLORING MAPS, &C.

THE colors fittest for this purpose, are those which are perfectly thin and fluid, usually called *wash-colors*, or *tinctures*; they should be diluted with water, intimately mixed with them, by their being well stirred together. When the desired tint of color is thus obtained, with a brush proportioned to the size of the space intended to be stained, briskly apply the wash; always endeavouring to avoid— 1. All passing over the proper limits of that color; 2. All runnings of the color into spots, or parts of a deeper tint than the rest; occasioned by the settling of a greater quantity of color in some places than in others: or, sometimes, if one part of the space be dry before the rest, by a second coat of color passing over it. Begin the boundaries of your space first, that you may not exceed them.

Be careful that no two limits, which touch each other, are of the same color; since the prime intent of this business is distinction.

Distribute your colors, if practicable, so as to produce a pleasing effect in the whole.

After the various divisions are faintly washed, the boundary lines should be very neatly colored with a much stronger color of the same kind.

## OF COLORING PRINTS.

In this business regard should always be had first to the paper on which the prints are printed; if it sinks, it may require the assistance of roch alum, or other strengtheners.

The body of printing ink, which remains on the surface of the paper, should proportion, in many cases, the strength, and consistence, of the color to be used, according to the effect required. If it be intended only to *stain* the print, the effect of the engraving will be useful as forming shadows, and as keeping the drawing. If it be proposed to color the print highly, as advancing towards a picture, the engraving, although it must be attended to as the regulator, and guide, of form, and of effect, yet may be concealed by a surface of color.

Omit white color wherever you can do without it: *e. g.* in the lights, or parts approaching to lights, let the thinness of color supersede the admission of white.

Omit black color on the same principle: if you cannot do entirely without it, take especial care to use as little as possible, that it be not heavy.

In the broad lights, rather mingle colors of nearly a similar tone, to produce the effect required, than admit white; the same principle adopt in the shades.

Take great care that the outlines of all objects are mellowed, sweetened, and softened; and neither sudden, nor rugged, nor cutting to the eye.

Sometimes a print may be washed, and afterwards finished with body colors to good effect.

Harmony and tenderness of color should always be much attended to: then distribution and warmth.

The proper colors are those for WATER COLORS.

## OF TINTING DRAWINGS.

Drawings are tinted on the following principles:

I. Sometimes after being outlined with a black-lead pencil, they are stained; the sky and distances in landscape with a thin wash; the ground and front objects with body colors, then wrought up to effect with stronger colors alone, or united with Indian ink.

II. Sometimes they are more perfectly outlined, and washed with Indian ink; then the colors are added afterwards to finish the whole.

Drawings done in colors only, seldom look well, being usually deficient in effect and repose; for be it always remembered, glaring colors are hurtful. The best way for slight drawings, is to procure an effect with the Indian ink, and then a brilliancy, and variety of tone, &c. with colors.

Flesh colors should be very tender—the less the flesh is loaded with color the better.

In general, the lights require more finishing than the shades; in which a breadth of pencilling has usually an excellent effect. Warmth is very necessary in all drawings; opposition of colors should be carefully attended to—a heavy effect in a drawing is very bad.

The middle tint is the beauty of all drawings, and should predominate throughout the whole.

The proper colors are those for WATER COLORS.

## OF PAINTING IN WATER COLORS.

This part of art is seldom practised in historical compositions, or figures, they being generally treated in oil; yet it has both its uses, and its beauties: The colors are free from smell, and often rich, and pleasing; they are mixed on the principle of oil colors, not rejecting white where proper.

As it is impossible to convey by words exact ideas of the numerous combinations, tones, and variations of colors, it is evident, that the following directions must be understood with great latitude. They may serve to impart the rudiments of a principle, to be varied according to the effects desired; but the same proportions of colors will not serve every occasion equally well, nor produce the same harmony, or even appearance, if surrounded by different neighbours. Directions, therefore, are, at best, but very imperfect; and, though we think it to the advantage of students to insert these directions, yet we are aware of their imperfections to many purposes which may be required in treating of different subjects.

The materials are gum-water, pencils, a pallette (of ivory, if thought proper; but a Dutch tile, or any glazed surface of a light color will serve the purpose); a pallette-knife of ivory (steel is injurious to the colors); a pen-knife, &c.

*The* COLORS *to be used are:*

WHITES. Flake white, Spanish white, Troy white, Egg-shell white, &c.

**Blacks.** Burnt cherry-stones, Ivory-black, Lamp-black, Indian Ink, &c.

**Browns.** Spanish brown, Spanish liquorice, Umber.

**Reds.** Burnt ochre, Carmine, Indian lake, Indian red, Red lead, Vermilion, &c.

**Yellows.** Gall-stone, Gamboge; Masticot, dark and light; Pinks, yellow, dark, and light; English Ochre, Roman Ochre; Saffron, &c.

**Blues.** Blue Bice, Verditer, Indigo, Litmus, Smalt, Ultramarine, Prussian blue, &c.

**Greens.** Green Bice, Green pink, Sap green, Verdigris, Verditer, &c.

### *Directions for making a Variety of Colors by Compound.*

**Ash-color.** White and Lamp-black; Indigo and Black; Cherry-stone and White, shaded with Ivory-black.

**Bay-color.** Vermilion, with a little Spanish brown, and black.

**Bright Red.** Indian Lake and native Cinnabar, or Vermilion.

**Carnation.** Lake and white, shaded with Lake.

**Cloud Color,** White, light Masticot; Lake and White shaded with blue Verditer.

**Crimson.** Lake and White, shaded with Lake.

**Flame Color.** Vermilion and Orpiment; Red Lead and Masticot, heightened with White.

**Flesh Color.** White, with a little Lake, and Red Lead; add Yellow Ochre for a swarthy complexion.

**French Green.** Light Pink and Dutch Bice, shaded with Green Pink.

GLASS GREY. Ceruse, with a little Blue.

HAIR COLOR. Masticot, Umber, Yellow Ochre, Ceruse, and Cherry-stone Black.

LEAD COLOR. Indigo and White.

LIGHT BLUE. Bice, heightened with Ceruse.

LION TAWNEY. Red Lead and Masticot, shaded with Umber.

MURREY. Lake and Flake White.

ORANGE. Red Lead and a little fine Masticot, shaded with Gall-stone and Lake.

ORANGE TAWNEY. Cinnabar, light Pink, and a little Masticot, shaded with Gall-stone and Lake.

PURPLE. Indigo, Spanish Brown and White; Blue Bice with Red Lead and Flake White; or Blue Bice and Lake.

RUSSET. Cherry-stone Black and White.

SCARLET. Red Lead and Lake, with or without Vermilion; Carmine and Indian Lake; native Cinnabar and Red Lead, shaded with Indian Lake.

SEA-GREEN. Bice, Pink and White, shaded with Green Pink.

SKY COLOR. Light Masticot and White, for the lowest parts; Blue Bice and White for the next degree; Blue Bice alone for the highest part: all softened into one another at the edges, where they unite, so as not to appear harsh.

SKY COLOR FOR DRAPERY. Blue Bice and fine Ceruse; or Ultramarine and White, shaded with Indigo.

STRAW COLOR. Yellow Masticot, and a very little Cinnabar shaded with dark Pink.

Violet Color. Indigo, White and Cinnabar, or Lake; or fine Dutch Bice and Lake, shaded with Indigo; or Litmus, Smalt, and Blue Bice; the latter most predominant.

Water. Blue and White, shaded with Blue, and heightened with White.

It is evident, even on a slight inspection, that the proportions of the several ingredients in these compound colors must vary the tint, the tone, and the effect of them when used: as no general rules can be laid down which shall suit every subject, we leave to the accuracy of the student's eye and judgment the making of those peculiar variations, which every different composition requires.

### *Directions for laying on the different Colors.*

Before you begin, have all your colors ready before you; a pallette for the conveniency of mixing them; a paper to lay under your hand, to keep your work clean, as well as to try your colors on; also a large soft brush, or fitch, to wipe off the dust when your colors are dry.

Lay your colors on very thinly at first, deepening them and mellowing them, by degrees, as you see occasion. The quicker you lay them on, the evener, and cleaner, your drawing will appear.

Take care to preserve all your colors from dust; and before you use them, wipe your shells, and pallette, every time with your fitch.

When you have done your work, or, would lay it aside, be careful to wash out your pencils in clean warm water.

For face-painting, mix up carnation, or flesh color, with gum-water, in a shell by itself. For a fair complexion mix vermilion and flake white; for a swarthy one, add a little masticot, English ochre, or both.

Let your flesh color be always lighter than the complexion you would paint; for, by working on it, you may easily lower it, but you cannot readily heighten it.

For the cheeks and lips, use a mixture of lake and red lead, or carmine, as occasion requires; and for blue tints, (as under the eyes, and in the veins) indigo, or ultramarine, and white.

In coloring landscapes, at first only lay dead colors, smooth, all over the piece, leaving no part uncovered; use a masterly freedom; and the work, though seemingly rough at first, will have a good effect when finished.

Let not the roughness of the color discourage you; for, it is easy to soften it by degrees, with the other shadows, observing only to sweeten, and heighten, them, according as the light falls.

In some places lay on strong touches, and in those places bring your work up together to an equal strength; tempering, and sweetening, your colors, with a sharper pencil than the first, that no lumps, or harsh edges, be left, but that all your shadows may be soft, and smooth, and gliding gently, as it were, into one another.

You are not to finish any part before another, but work up all the parts gradually alike, that you may judge of their effect on each other, and on the whole.

Having laid your dead colors, begin first with the distances, and lighter parts, as the sky, sun-beams, &c. then the yellowish beams (which are to be done with masticot and white); next the blue of the sky (with ultramarine, bice, or smalt alone); making your colors deeper as you rise upwards from the horizon, except in tempestuous skies. The tops of distant mountains must be worked so faint, that they may seem to lose themselves in air.

All distant objects must be made imperfect as they appear in nature: and all distances must be finished with colors laid as thin, or in as small quantities as possible.

Bring your colors forward as you advance to the front; till you come to the fore-ground itself: where you may employ not only stronger colors, but a greater quantity of them, and in a bolder manner.

In coloring trees, boughs, and branches, touch in all the dark shades first, raising the lighter leaves above the darker; the uppermost of all are to be done last; touch lightly the extremities of the leaves, and set off the darkest shadows with sap-green and indigo: or other strong colors.

The intent of every picture, &c. is to imitate nature; therefore, where nature indicates different compositions of colors, from what we have given above, compose them as near as possible; if you fail at first, you may succeed afterwards. It is not to be supposed that the real effect of colors in combination, can be understood or attained till after the hand and the eye are matured by practice and re-consideration.

## OF PAINTING IN MINIATURE.

Painting in miniature has many advantages over other branches of art. It is neater, and not so incumbered with materials; as you may easily take with you all that are necessary, and entertain yourself wherever you please, quit and resume it when you will, without such a variety of preparations as are necessary in oil coloring.

The colors are those used for water colors; they must be of the best quality, finely ground, cleanly washed, &c. and mixed in the shells with gum water; which must be reserved in a phial kept corked, and observe never to take any out with a pencil that has color on it, but with a quill cut for the purpose in the form of a scoop.

To know whether your colors are properly gummed, draw your pencil when filled with color on your hand, which dries immediately, and should you perceive that it cracks or shines, it is then too highly gummed; but if it rub off, by lightly passing your finger over it on your hand, it has too little gum in it, and must have an addition put into the shell, taking care not to use too much gum, which makes the color hard. Gum adds strength to dark colors; and when you choose to give a greater force to any color than it naturally bears, increase the quantity of gum.

To correct the greasiness of dark colors, mix a little of the gall of an ox, carp, or eel, particularly the latter, dried and diluted with brandy for use; this makes the color work free, and prevents its scaling.

Ivory is generally used to receive the colors, but a card is very useful, and may be sufficient for slight subjects.

The choice of good pencils is a great matter, therefore wet them a little as you draw them through your lips, and if the hairs keep close together (as you turn them on the back of your hand) and make but one point, they are fit for use; but if they make several points some longer than others, they are useless. When they are too sharp pointed, with only a few hairs longer than the others, they must be trimmed with a pair of scissars, taking care not to clip away too much. It is necessary to have different sizes, the larger for laying grounds and dead coloring, and the smaller for dotting and finishing.

To bring the hairs of your pencil to join close together, and make a fine point, just put it between your lips, moistening and pressing it, leaving only so much color on it as is sufficient to give fine and equal touches. None of the colors used in miniature painting are poisonous, or prejudicial, except king's yellow, and orpiment, which are seldom, or never used. This method is particularly used for dotting and finishing the naked parts of a picture, that the touches may be neat, and not too much charged with color. As for draperies, and other large masses; it is sufficient to draw the pencil over the edge of the shell to unload it, giving a few strokes upon a card, or paper, before you use it on the picture.

A north light is desirable for the painting-room, as by that light we view objects most truly, and without glare; it is necessary to admit the light at one window only, and that confined to your work, placing your left side next it, and your desk on a table, just high enough to work at, in an easy and graceful manner, without stooping, or crampness, &c. which is very detrimental to health.

Sketch the outlines of the picture with thin carmine; this being finished, proceed to dead color; making the shadows tender, that they may afterwards be heightened by dotting, and brought to proper color, and spirit.

There are several methods of dotting, and every painter has that peculiar to himself; some make their dots perfectly round, others make them long, but the best and most expeditious manner, is by little strokes that cross each other every way, till the work appears as if it had been dotted; softening them, so as to give your picture a fleshy mellowness, and avoiding all dry, or hard touches.

After you have dead-colored a picture, begin the back-ground. First, lay in a light tint of the proper color, then pass a layer of the same color over that; laying it as smooth as possible with large strokes of the pencil, *i. e.* not with dots.

Dark back-grounds are composed of bistre, umber, or Cologn earth, with black and white, others more yellow, with a great part ochre. Black, white, and a little indigo, for grey back-grounds: Dutch pink, white and black, make a greenish, or olive ground, which makes the naked part of a picture appear very fine, and gives by contrast, a warmth to the coloring.

Having drawn the outlines of your picture very correctly, begin the shades with vermilion and carmine; giving the strongest touches at the corners of the eyes, next the nose, under the nose, the ears, and under the chin; the fingers; and in every part where you would mark out separations in shades that are obscure.

Next lay in the blueish tints with indigo, on such parts as go off, or turn from the light; as the temples, under, and in, the corners of the eyes, on both sides of the mouth, a little on the middle of the forehead, between the nose and eyes, on the side of the cheeks, the neck, and such other parts as nature indicates.

Yellow tints are composed of ochre and vermilion, and are given on the sides of the nose towards the bottom, under the eye-brows, a little underneath the cheeks, and on the other parts which rise, and come forward, to the sight. It is particularly in these tints the complexion is to be observed.

When you have done your dead-coloring, and laid in the several tints, proceed to finish, by dotting over the shadows with greenish tints, and finishing the yellowish and blueish tints before directed. Soften the extremity of your shades on the light sides, preserving the color of the ivory for a middle tint, which adds a fine softness to a picture. Finish your strong shadows with bistre and vermilion, or terra di Sienna, and in some parts with pure bistre, according to the subject you are painting, laying on your colors as clear as possible.

Dot

# The
# Artist's Repository,
# OR
# ENCYCLOPEDIA of the FINE ARTS
## Vol: 2.

## Perspective, Architecture.

1813 ,
London. Published by C. Taylor, No. 108, Hatton Garden, Holborn.

Frontispiece to VOL. II.

Architecture.

Plenty.

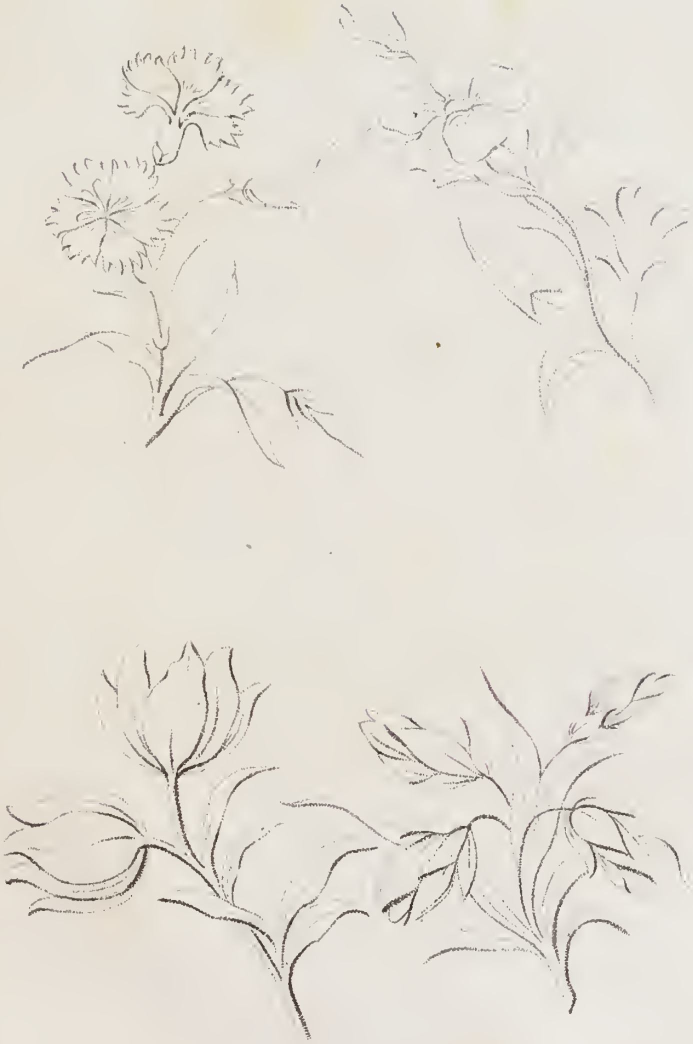
Peace.

Justice.

Spring.

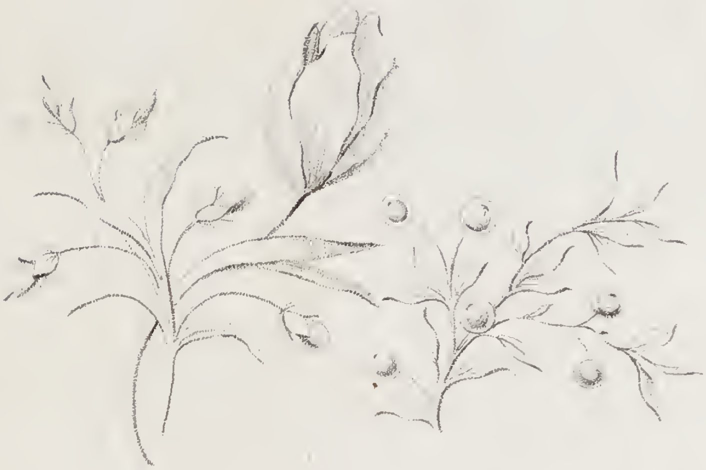
Smelling.

*Plate 5, page 94.*



HANDLING.

*Plate 6, page 94*



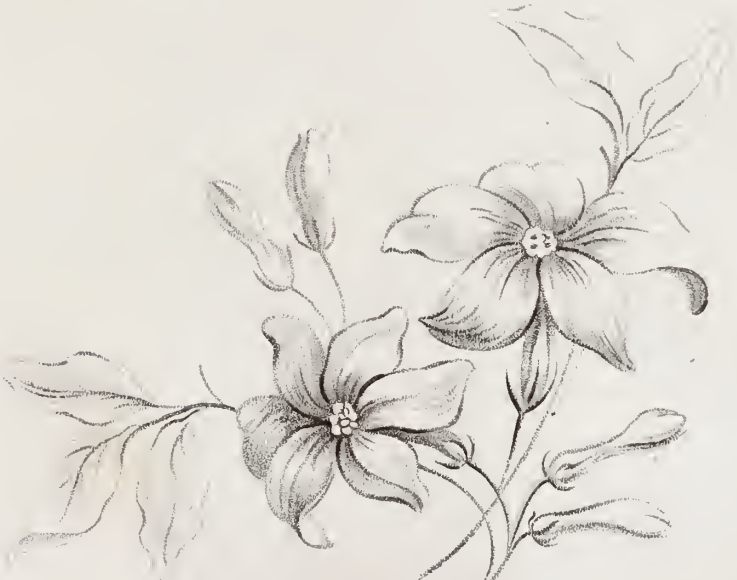


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*Plate 7, page 94.*

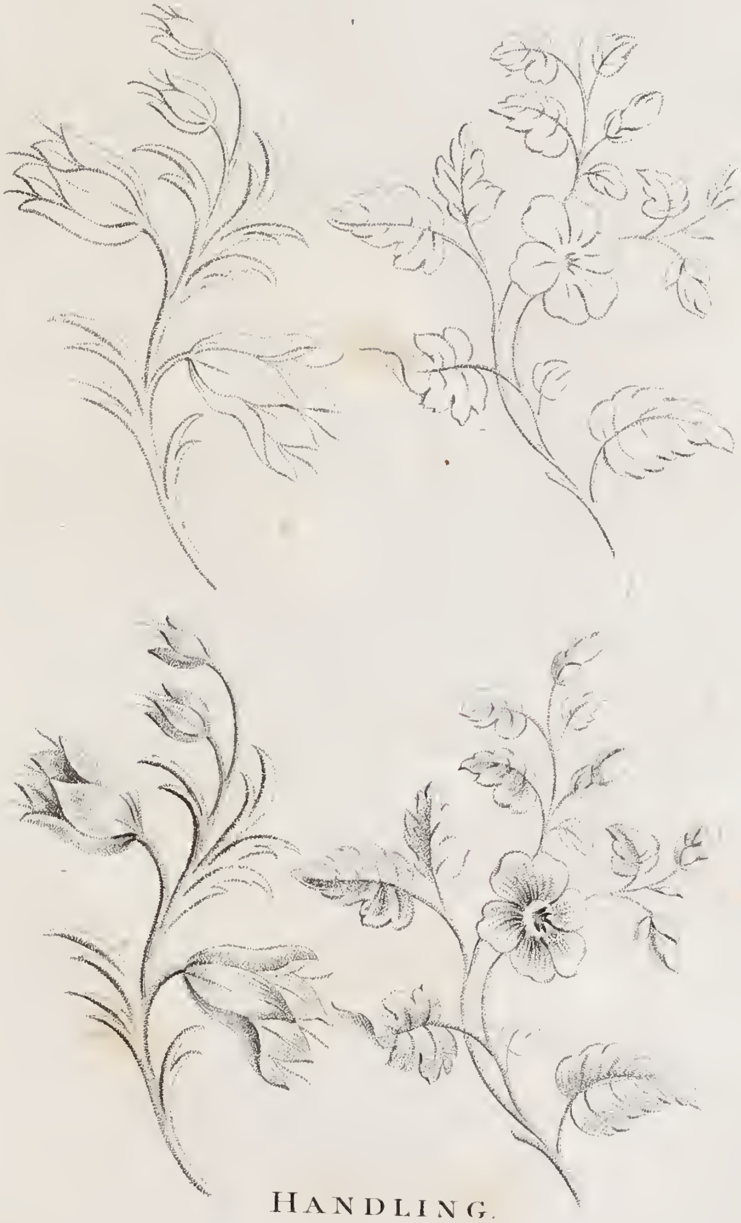

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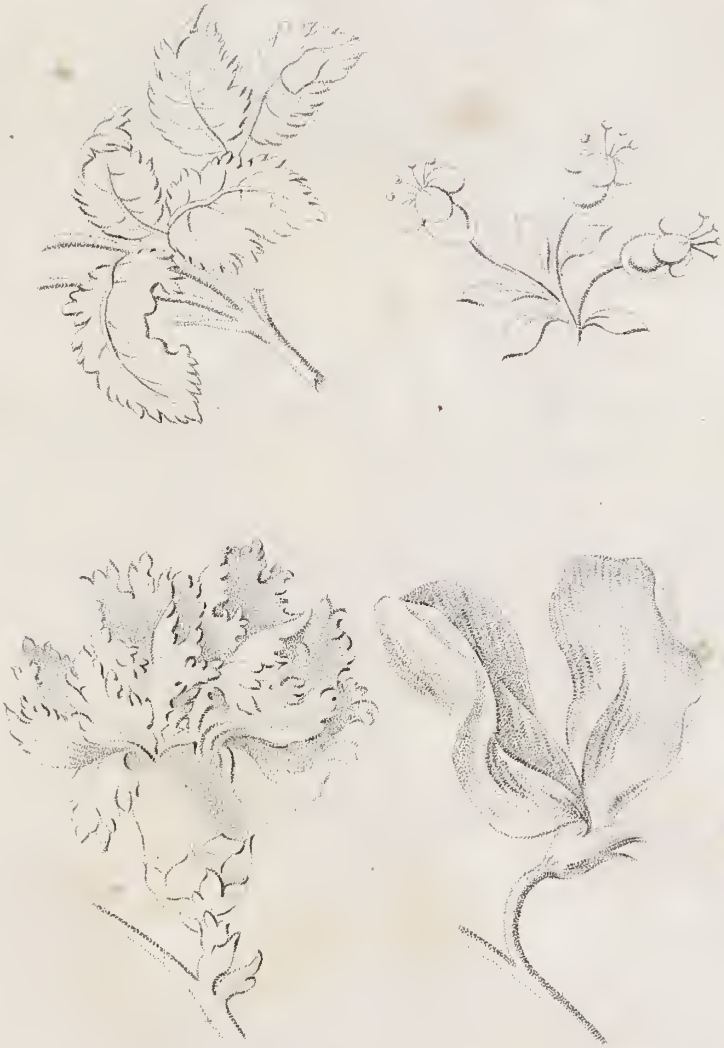
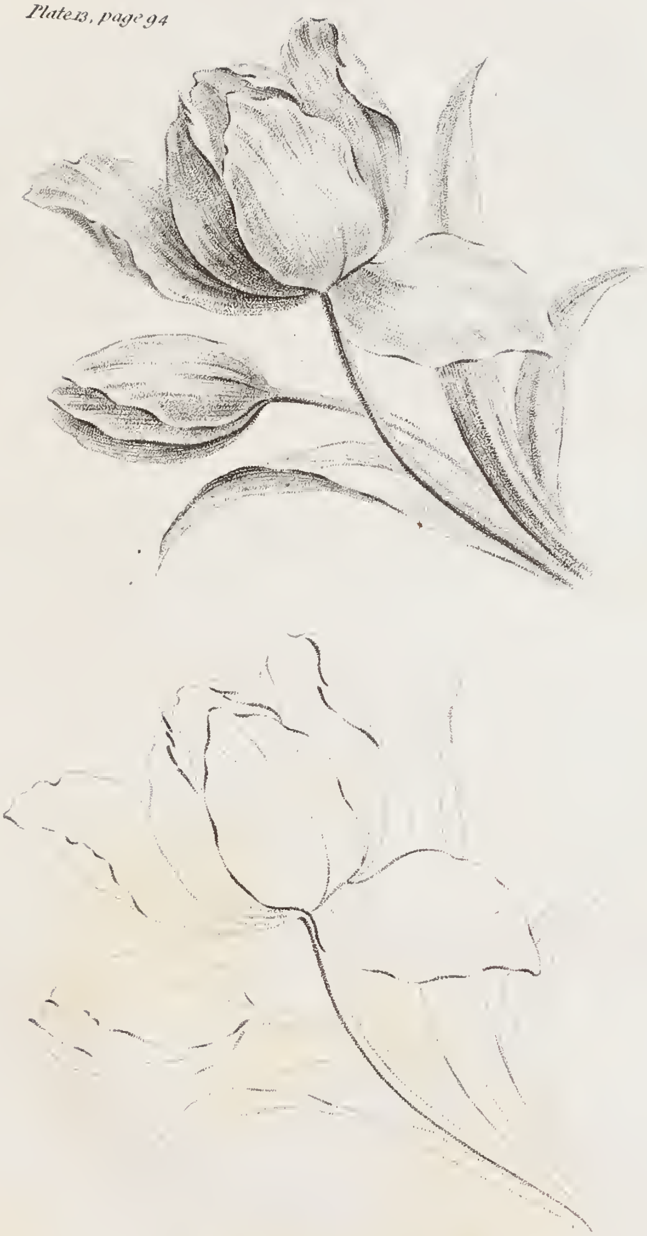
*Plate 8, page 94.*



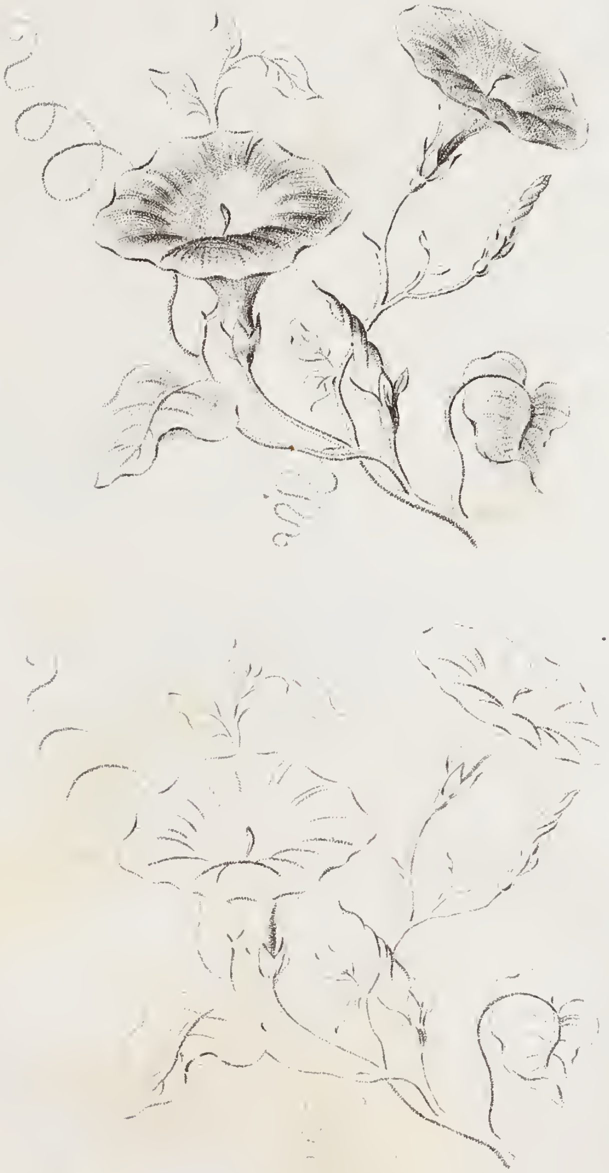
HANDLING.

Plate 13, page 94



HANDLING.

*Plate 14, page 94.*



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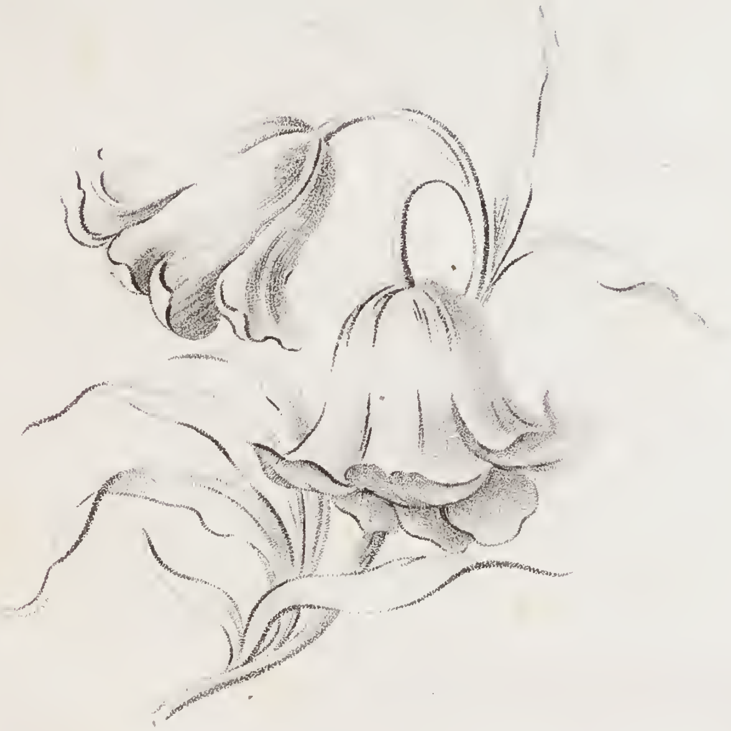

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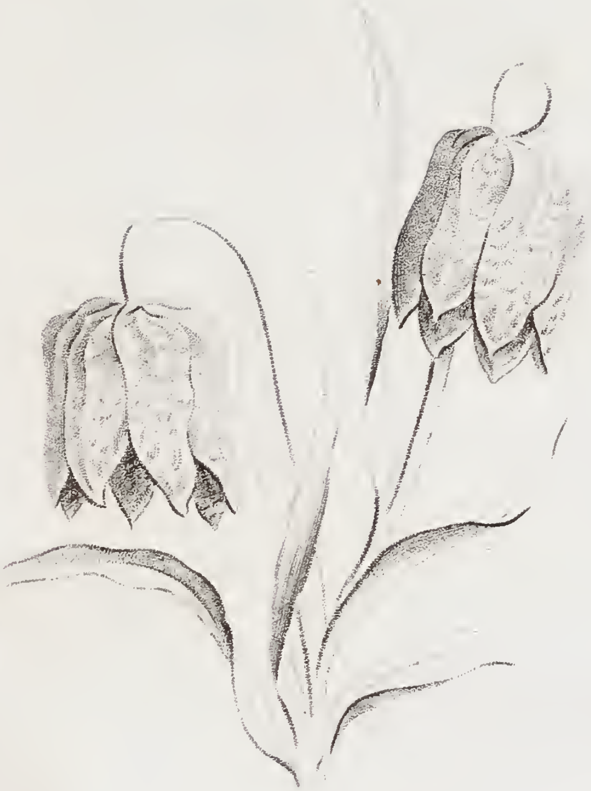

HANDLING.

# CHARACTER

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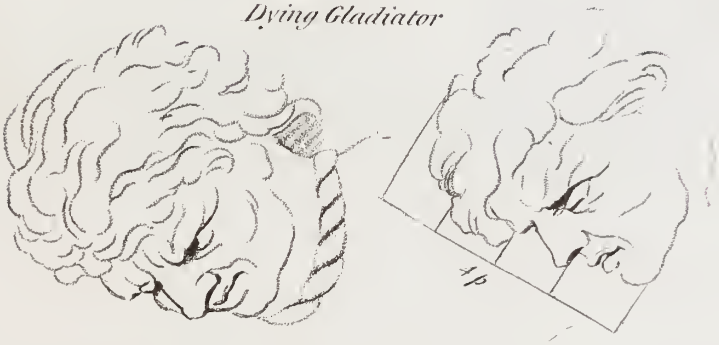

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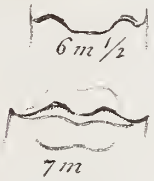
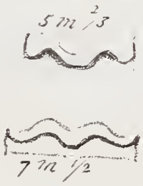
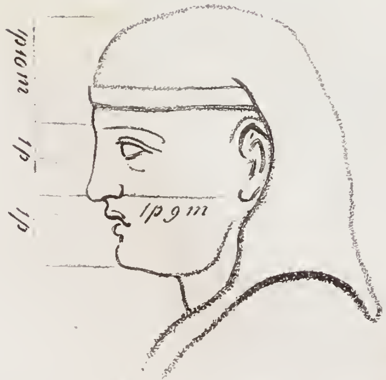
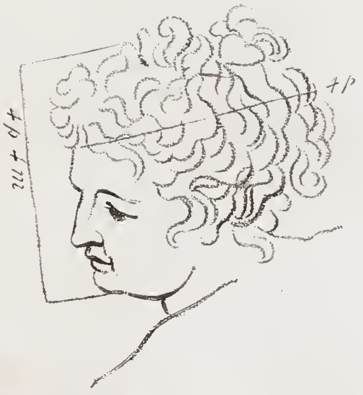


*Antinous*



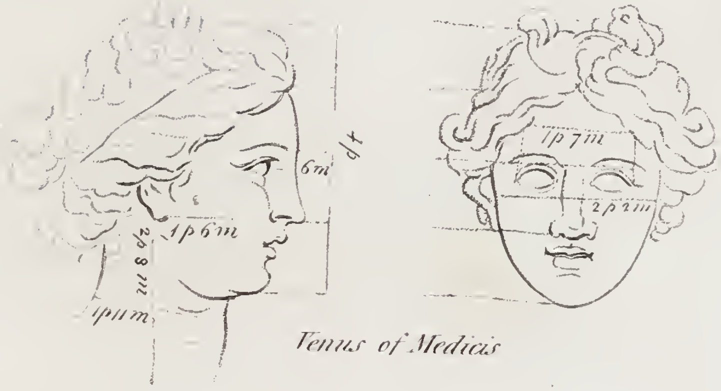


*Egyptian Term*



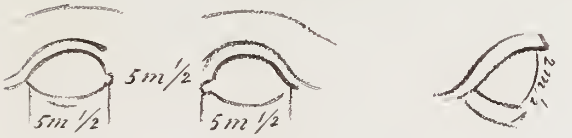
*Grecian Shepherdeſs*

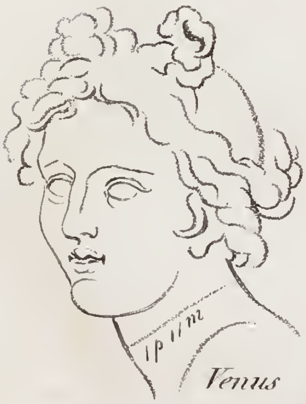
# CHARACTER



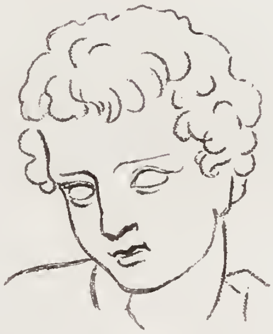
*Venus of Medicis*

*Fragment*





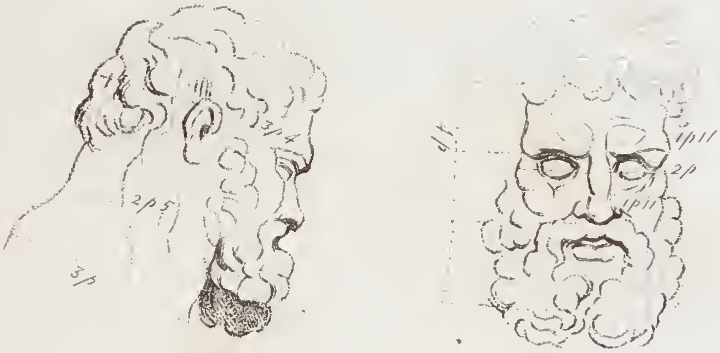
*Venus*



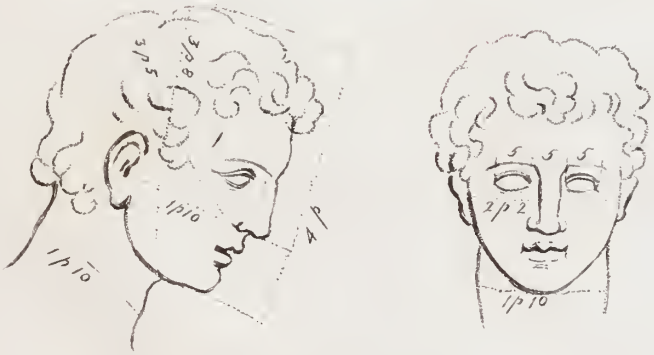
*Antinous*

*Plate 37, page 151.*

# CHARACTER



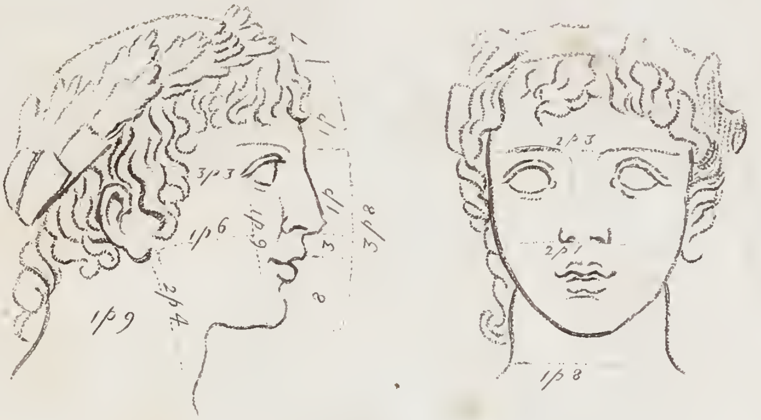
*Hercules*



*Antinous*

Plate 58, page 151.

# CHARACTER



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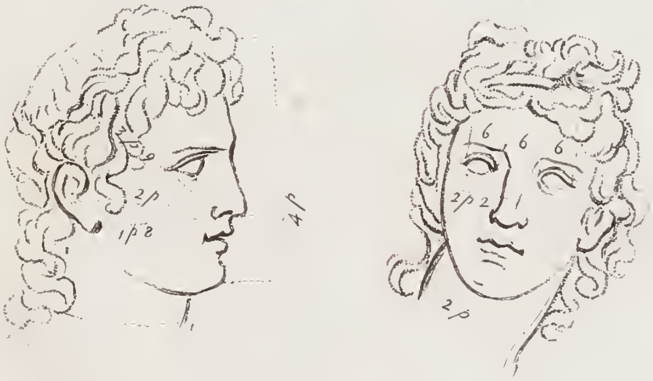
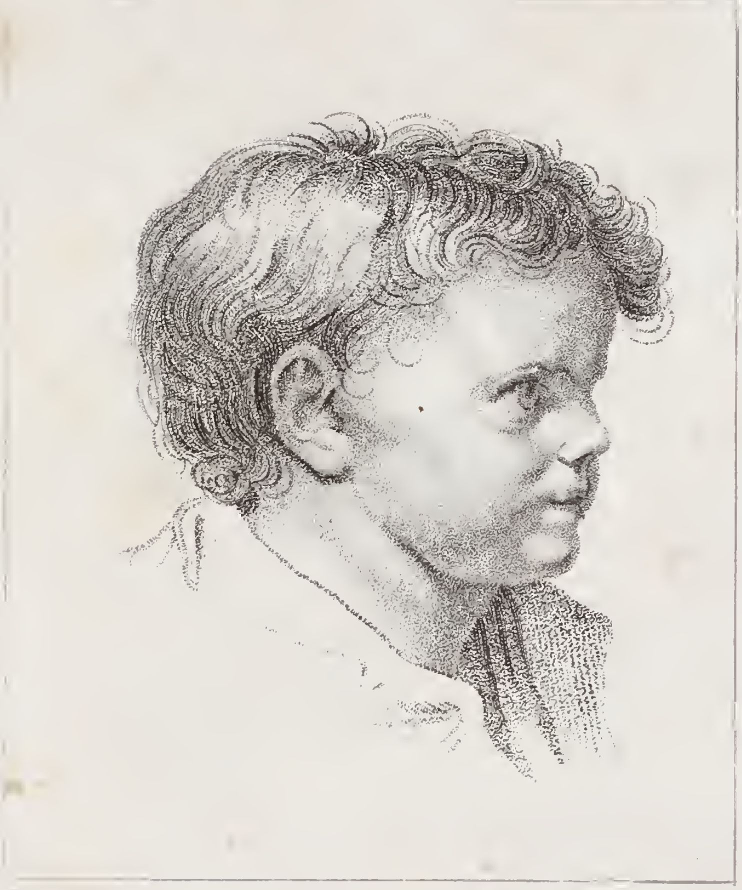
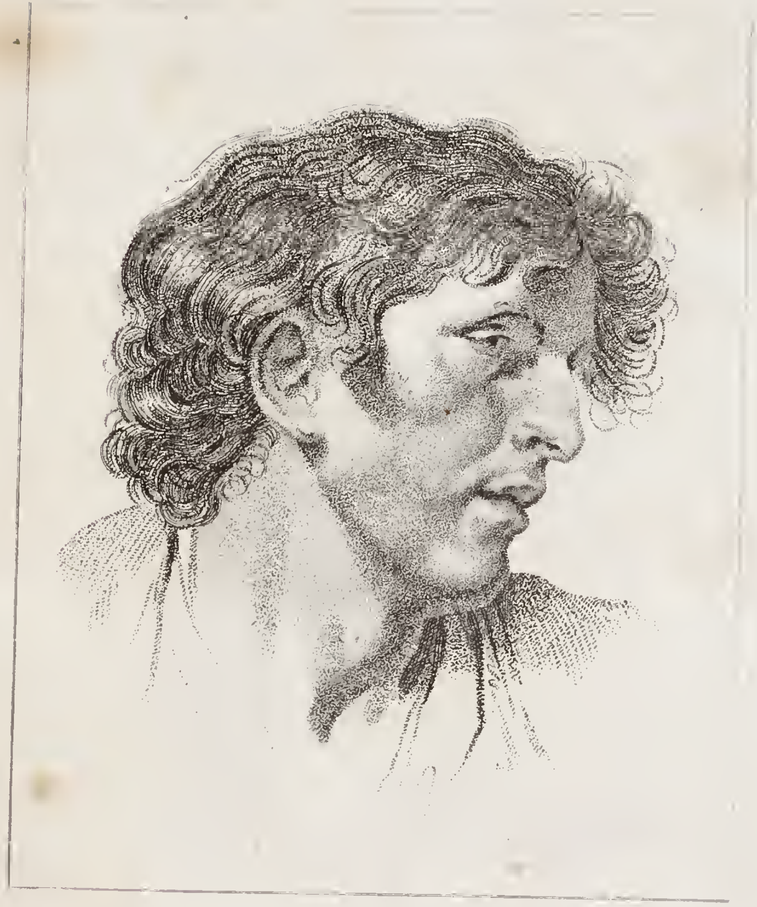


Pythian Apollo

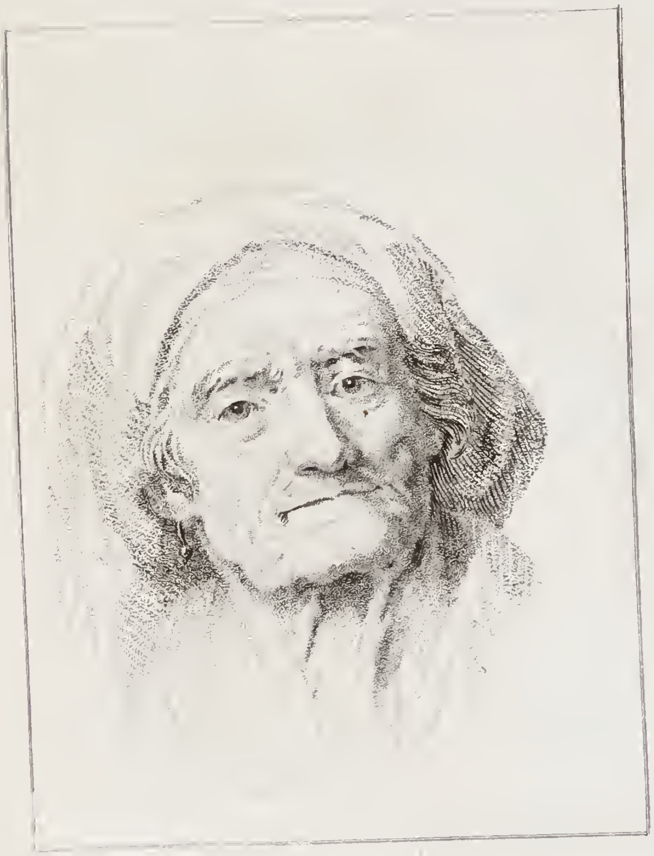
CHILDHOOD.



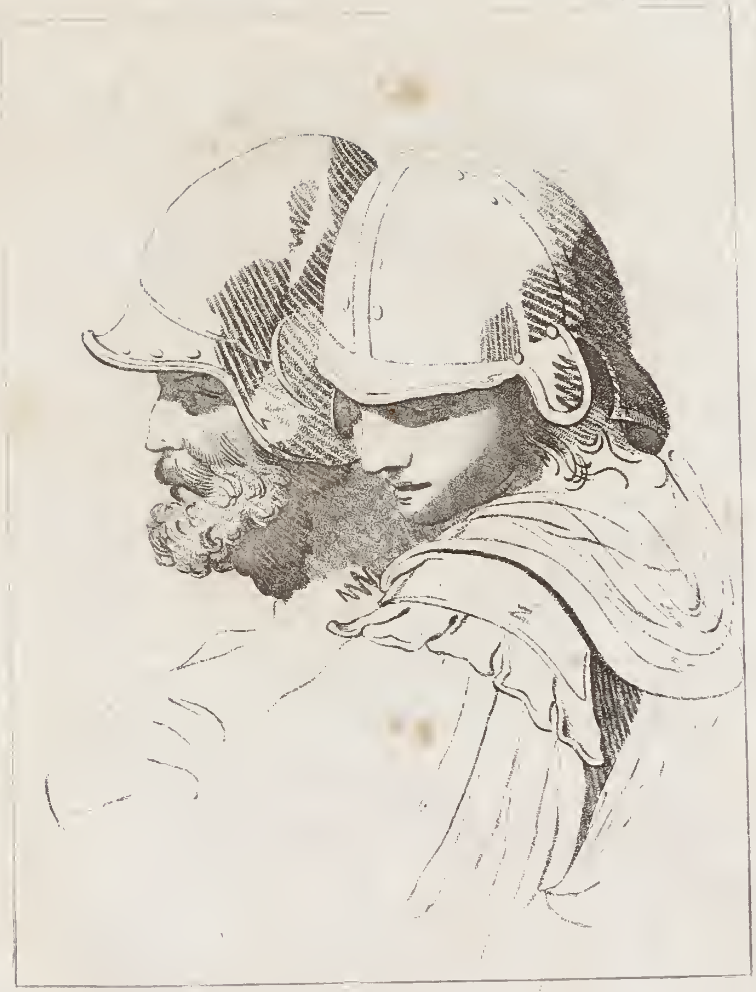
CHILDHOOD.



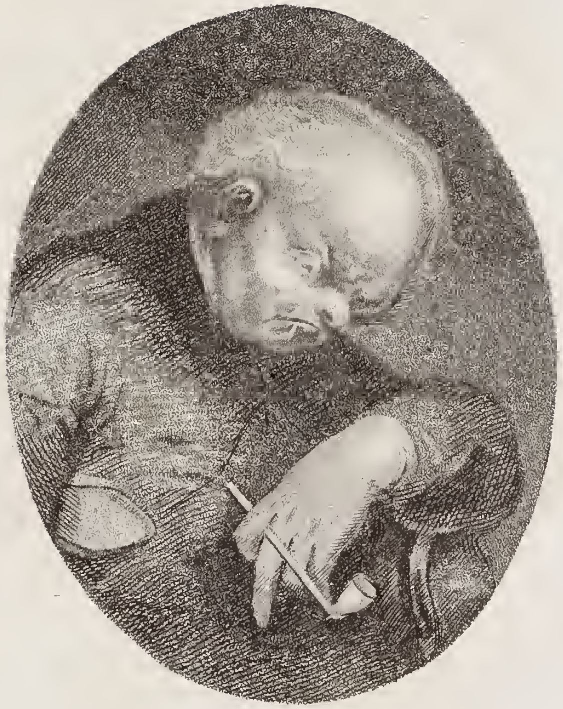
MANHOOD.



AGE.

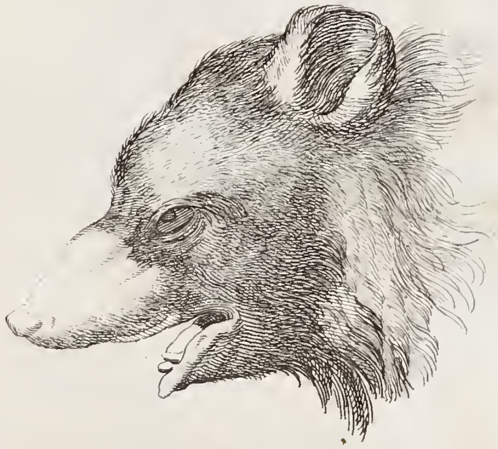


From a Drawing by Mortimer.



From a Sketch in oil by Worlidge.

From a Drawing by M^rs S. Shelley.



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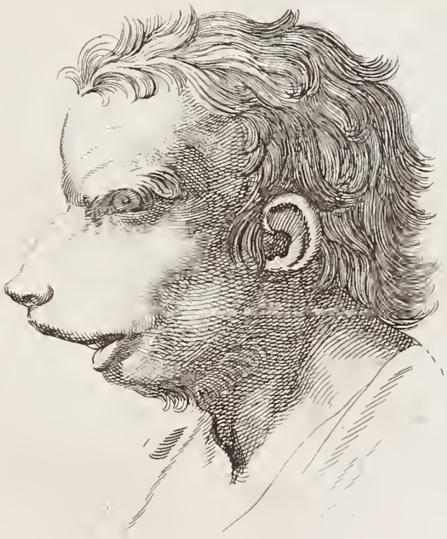
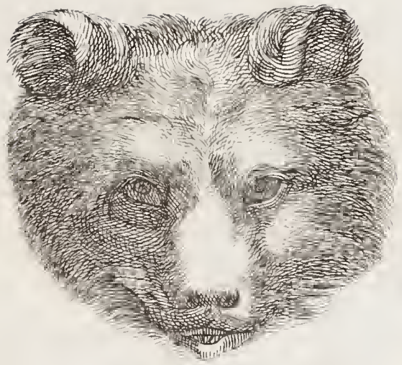


Plate 38, page 153.



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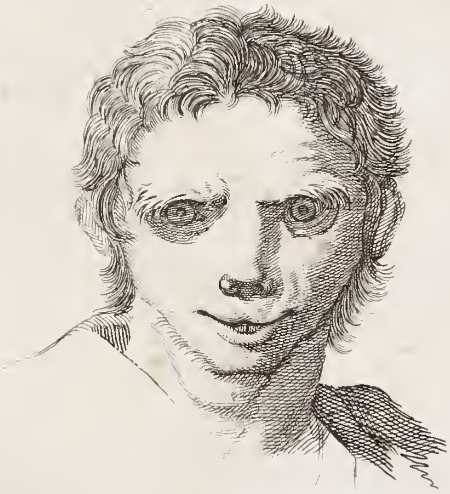

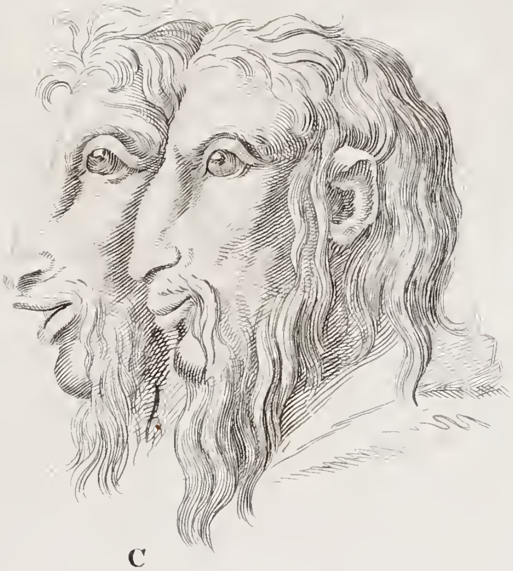

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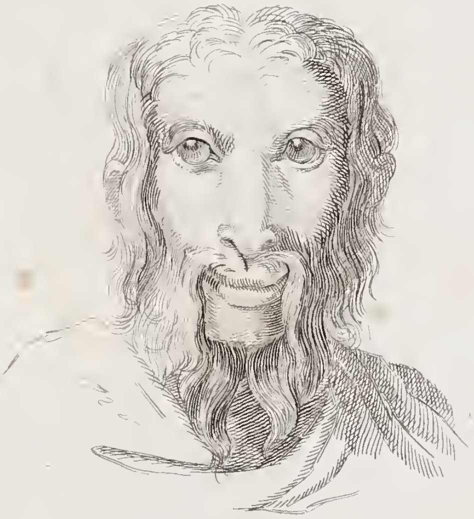
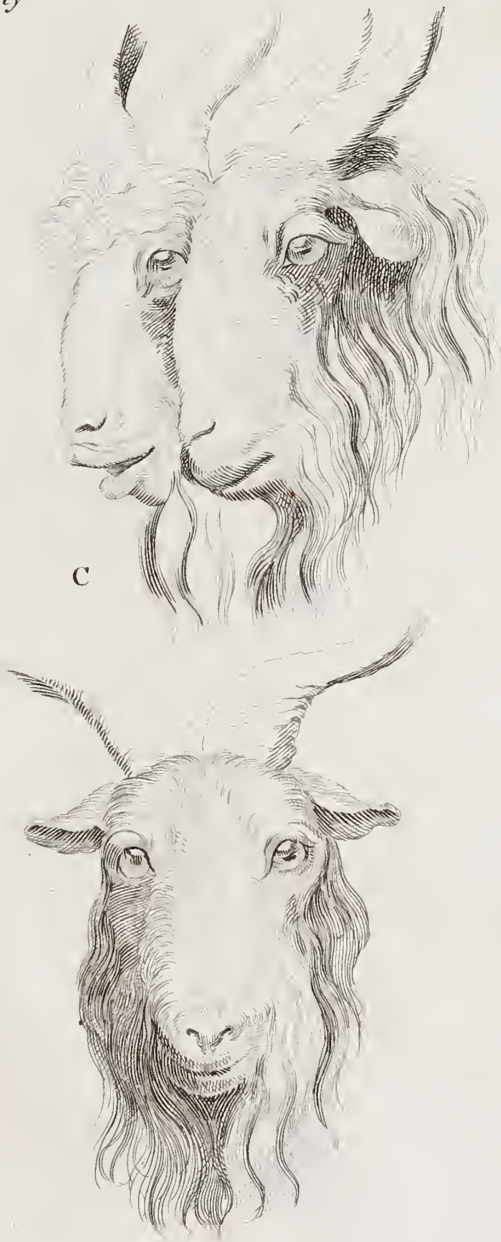
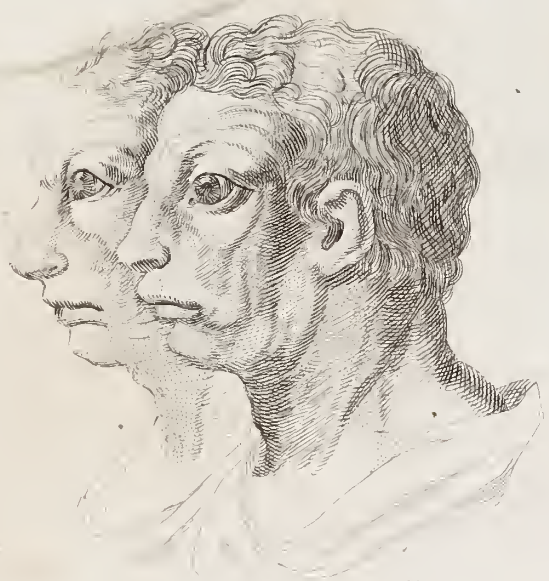



C

*Physiognomy* *Plate 61, page 153.*



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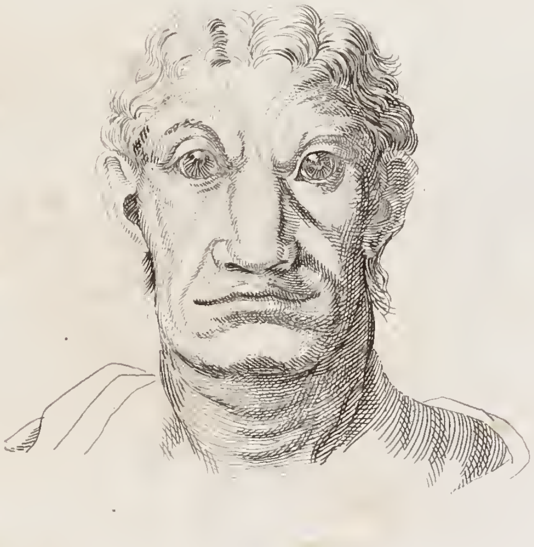
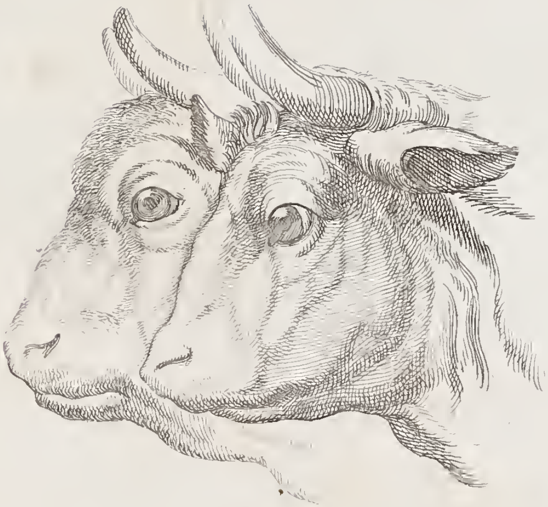


*Plate 62, page 153.*



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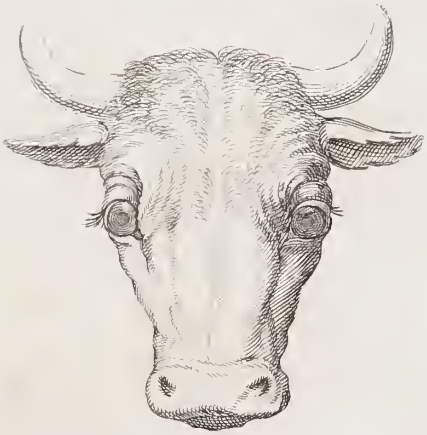
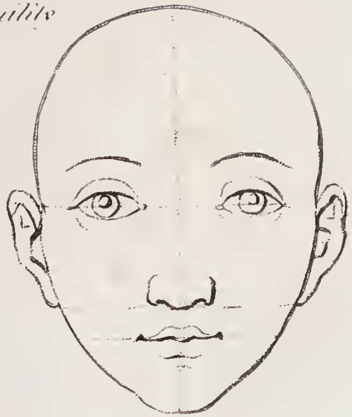


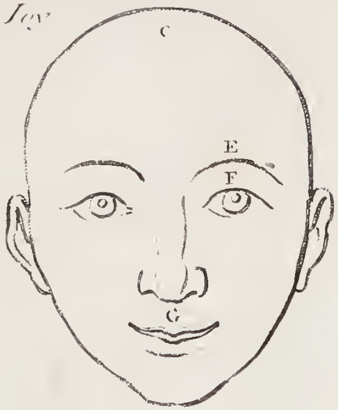
*Plate 77. page 188.*

# EXPRESSION

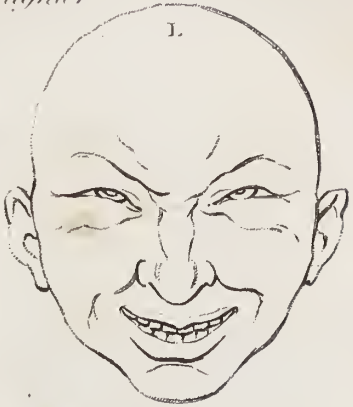
*Tranquility*



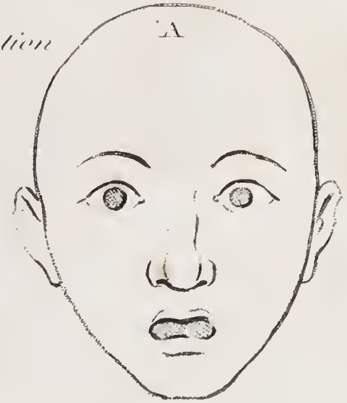
*Joy*



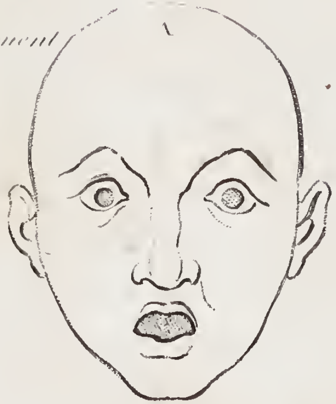
*Laughter*



*Admiration*



*Aſtoniſhment*



*Aſtoniſhment with Fright*

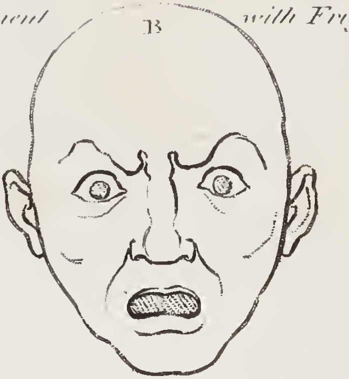
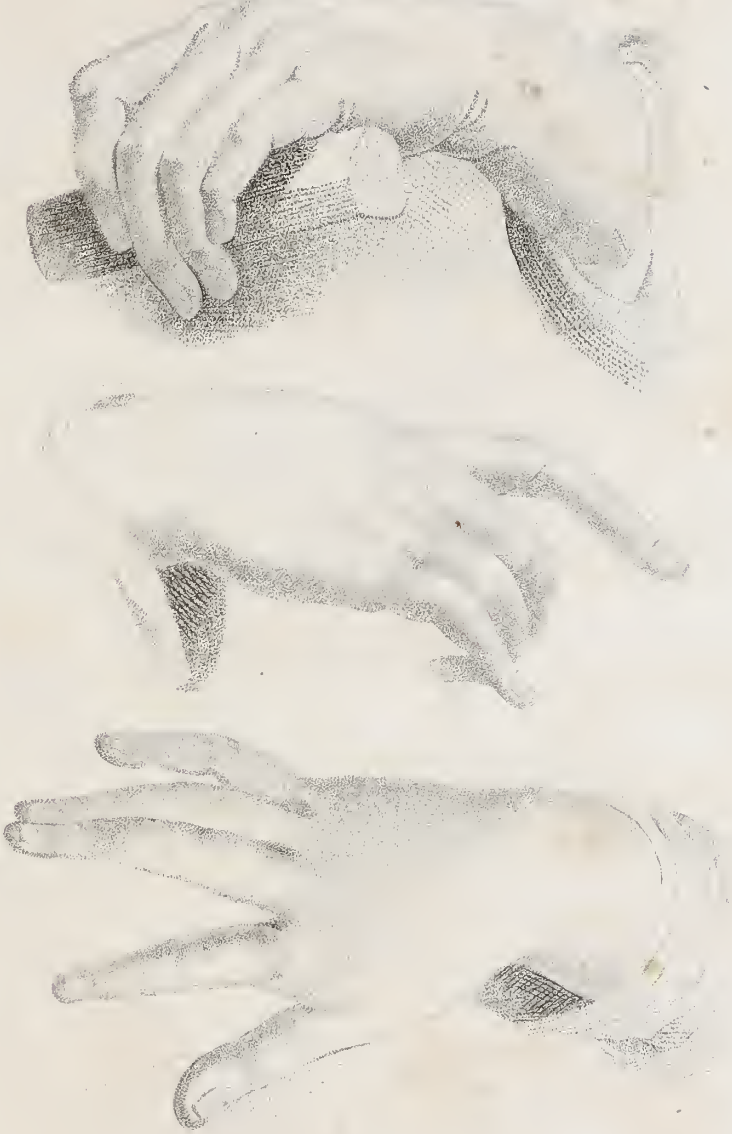
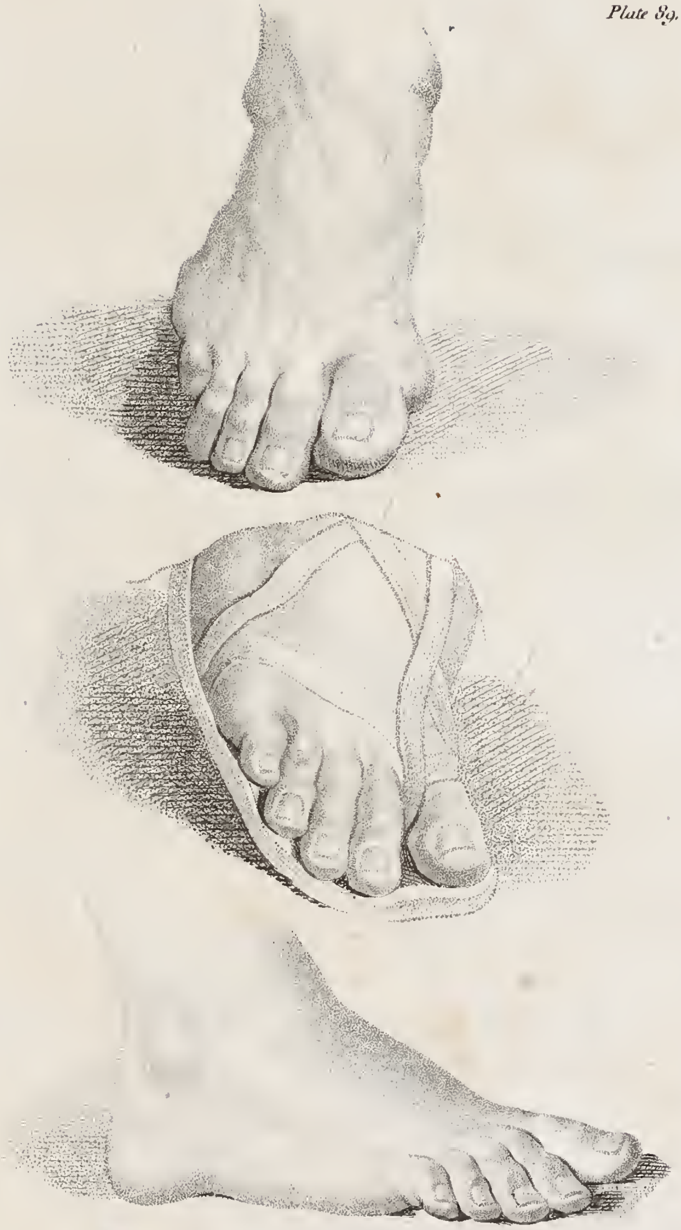


*Plate 88, Page 215.*



PARTS of the FIGURE.

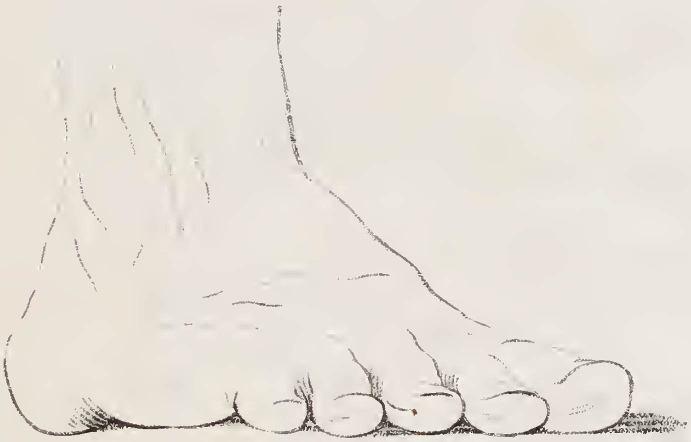
*Plate 89, Page 215*

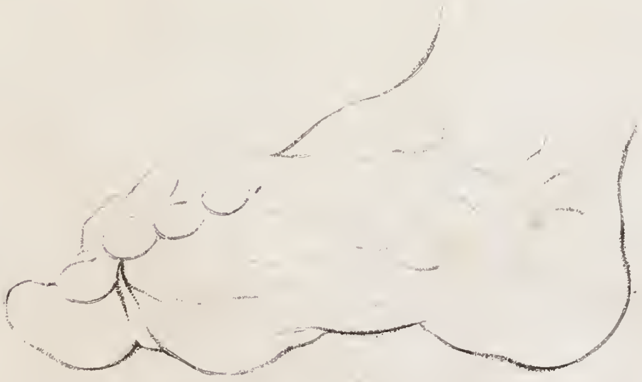


PARTS of the FIGURE.

2

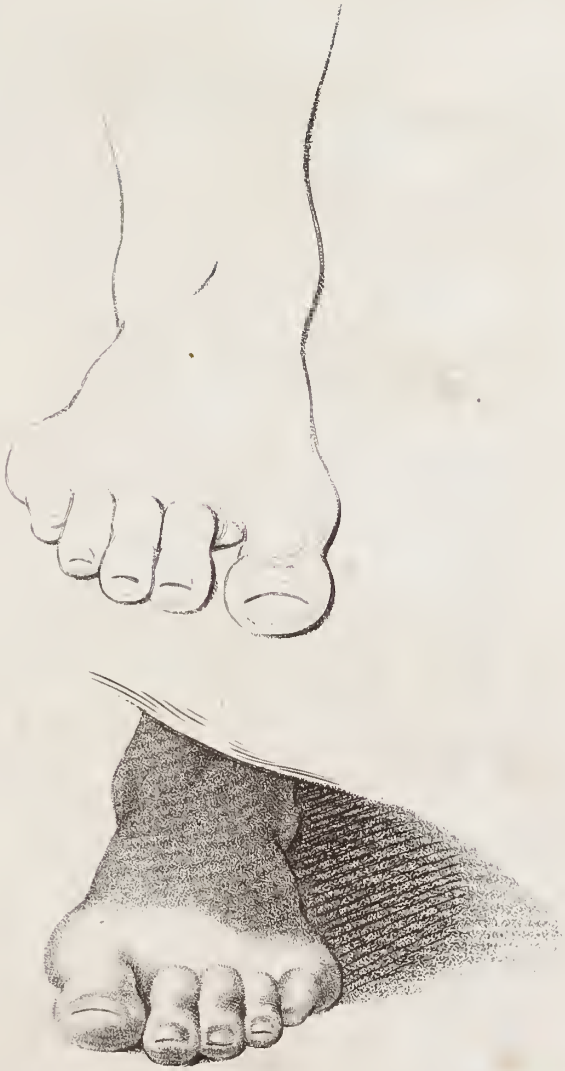
*Plate 90, page 216.*



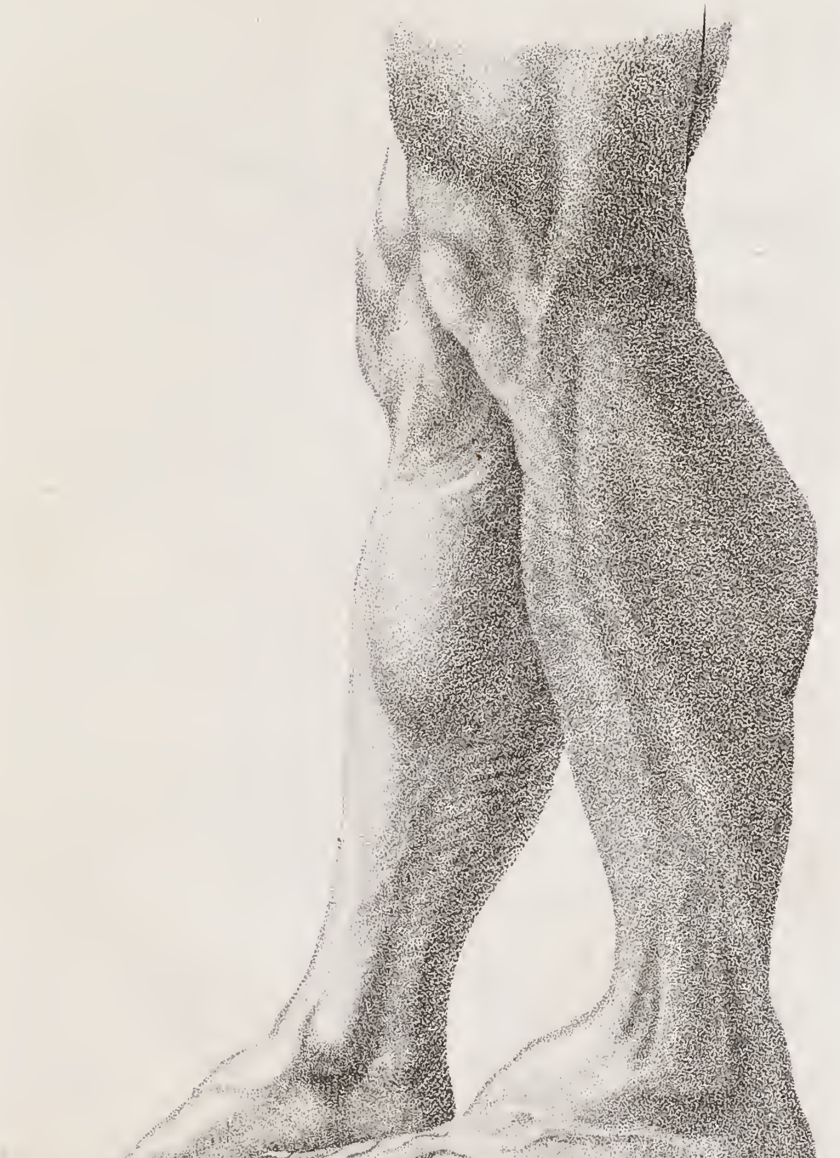


PARTS of the FIGURE.

*Plate 91, page 216.*

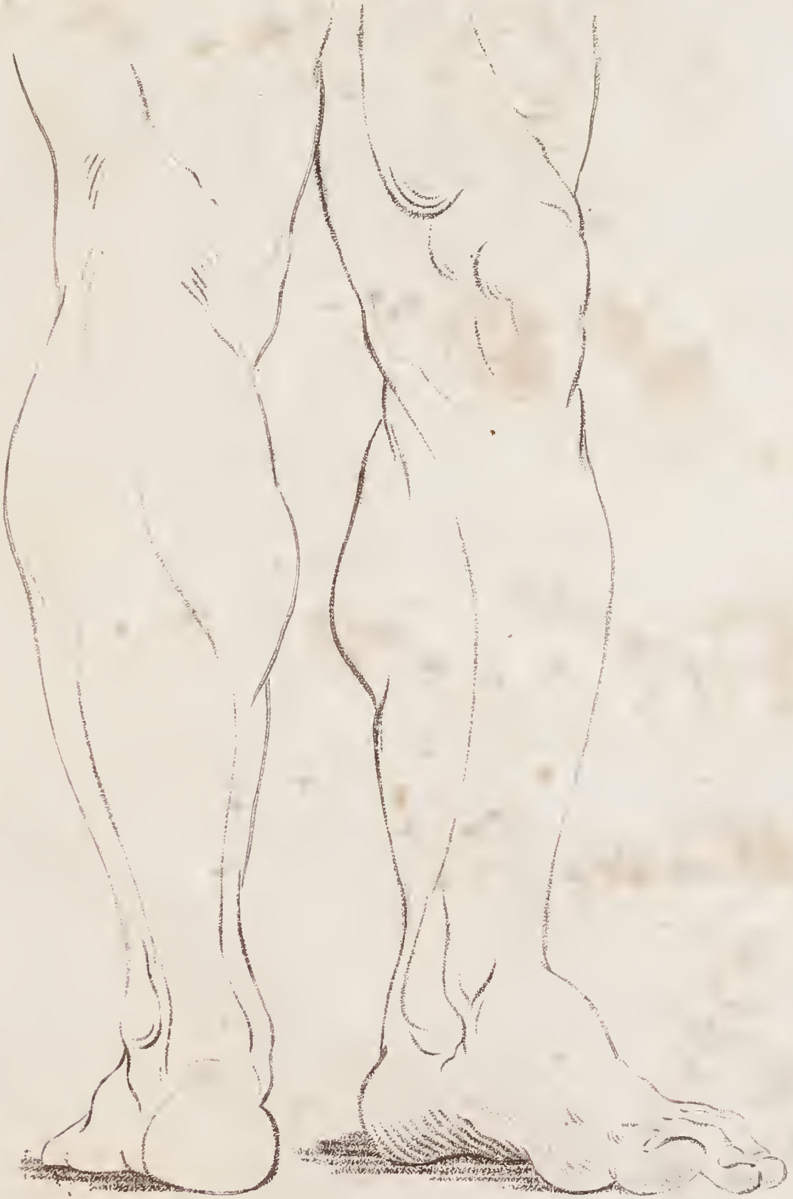


PARTS of the FIGURE.



PARTS of the FIGURE.

*Plate 92, page 216.*



PARTS of the FIGURE.

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